

WCIQ-DT CHANNEL 7 MINOR  
CHANGE IN LICENSED FACILITY  
APPLICATION FOR FINAL  
POST-TRANSITION DTV OPERATION  
*MOUNT CHEAHHA, ALABAMA*  
*(Alabama Education Television Commission)*

KESSLER AND GEHMAN ASSOCIATES, INC.  
TELECOMMUNICATIONS CONSULTING ENGINEERS

20080312

*Prepared by William T. Godfrey, Jr.*

**KGA**

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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 CHANGE IN LICENSED FACILITY APPLICATION (BLEDT-20061108AAN) REQUESTING AUTHORIZATION TO OPERATE THE ALABAMA EDUCATIONAL TELEVISION COMMISSION (AETC) DIGITAL TELEVISION BROADCAST FACILITY, WCIQ-DT CHANNEL 7, ON ITS FINAL POST-TRANSITION DIGITAL CHANNEL AS ADOPTED IN THE FINAL DTV TABLE OF ALLOTMENTS.**

The firm Kessler and Gehman Associates, Inc. has been retained by the Alabama Educational Television Commission (AETC), Birmingham, AL to prepare engineering studies and the engineering portion of a minor change in licensed facility application (BLEDT-20061108AAN) requesting authorization to operate the WCIQ-DT facility on its final post-transition digital channel as adopted in the Report and Order in MB Docket No. 07-91, FCC 07-228 *In the Matter of Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, Released on December 31, 2007 (R&O). This application also requests authorization to operate the final WCIQ-DT Channel 7 post-transition DTV facility with an Effective Radiated Power (ERP), antenna height radiation center, coordinates, and antenna azimuth pattern that deviate slightly from the final DTV Table of Allotments (DTV TOA) adopted in the R&O.

**Discussion**

The final DTV Table of Allotments (TOA) assigns digital Channel 7 as the WCIQ-DT post-transition digital channel. It also assigns the following parameters for the WCIQ-DT Channel 7 post-transition facility: 1) an antenna radiation center Height Above Average Terrain (HAAT) of 610 m; 2) an ERP of 24.1 kW; 3) antenna ID 80203, which is slightly directional, and 4) the following coordinates: Latitude 33°-29'-07" N and Longitude: 085°-48'-33" W.



AETC currently operates its analog television broadcast facility, WCIQ-TV, on Channel 7 with a GE model TY-28H nondirectional antenna mounted on the top of the AETC-owned tower (ASRN: 1036421) at 610 m AAT. AETC has issued a Request for Proposal (RFP) to purchase a new Dielectric model TW-7B7-R nondirectional antenna for its post-transition DTV Channel 7 facility which will replace the existing Channel 7 top-mount nondirectional antenna. Mounting the new antenna on the top of the existing tower will result in an antenna radiation center HAAT of 575.8 m which is 34.2 m less than the antenna radiation center HAAT assigned in the Final DTV TOA. The 34.2 meter antenna height decrease along with a decrease in ERP, from the assigned 24.1 kW to only 24.0 kW, will allow AETC to operate with a nondirectional antenna, instead of the slightly directional antenna pattern assigned in the DTV TOA, without expanding coverage in any direction. This application also requests to correct the transmitter site coordinates which are off by one second in latitude and one second in longitude. The correct coordinates are: Latitude 33°-29'-06 N" and Longitude: 85°-48'-32 W. The proposed 34.2 meter antenna height decrease, 0.1 kW ERP decrease, coordinates correction, and azimuth pattern change will comply with the "freeze" (DA 04-2446) and closely match the final DTV TOA facility.

Referring to Exhibit 8, it can be seen that the proposed WCIQ-DT Channel 7 post-transition facility's F(50,90) 36.0 dBuV/m noise limited contour (red), resulting from an antenna radiation center HAAT of 575.8 m and an ERP of 24.0 kW using a nondirectional antenna, closely matches the F(50,90) 36.0 dBuV/m noise limited contour, resulting from the parameters adopted in the Final DTV TOA (green). The F(50,90) 36.0 dBuV/m noise limited contour, resulting from the parameters adopted in the Final DTV TOA (green), completely encompass the proposed WCIQ-DT Channel 7 post-transition facility's F(50,90) 36.0 dBuV/m noise limited contour (red) in all azimuthal directions.

### **Expedited Processing**

Exhibit 8 demonstrates that the WCIQ-DT Channel 7 Final DTV TOA facility's F(50,90) 36.0 dBuV/m noise limited contour (green) completely encompasses the proposed WCIQ-DT



Channel 7 facility's F(50,90) 36.0 dBuV/m noise limited contour (red). Exhibit 9 is a distance to contour tabulation of the WCIQ-DT Channel 7 Final DTV TOA facility. This exhibit depicts the distance, in kilometers, from the transmitter to the WCIQ-DT Final DTV TOA facility's noise limited contour in all azimuthal directions. Exhibit 10 is a distance to contour tabulation of the proposed WCIQ-DT Channel 7 facility. This exhibit depicts the distance, in kilometers, from the transmitter to the proposed WCIQ-DT noise limited contour in all azimuthal directions. Exhibit 11 is a distance to contour comparison spreadsheet which compares the distance from the transmitter to the noise limited contour of the WCIQ-DT Final DTV TOA facility (Exhibit 9) and the proposed facility (Exhibit 10). Column four in Exhibit 11 depicts "PASS" if the proposed distance to contour values are less than or equal to the Final DTV TOA distance to contour values or "FAIL" if the proposed distance to contour values are greater than the Final DTV TOA distance to contour values. Exhibit 11 demonstrates that the Final DTV TOA facility's distance to contour values are greater than or equal to the proposed distance to contour values in all azimuthal directions. Therefore, the proposed facility will not expand the noise limited service contour in any direction beyond that established in Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. Section 73.622(i) ("new DTV Table Appendix B".)

Exhibit 12 is a contour map depicting the WCIQ-DT Final DTV TOA facility's F(50,90) 36.0 dBuV/m noise limited contour (green) and the predicted population within that contour based on U.S. Census 2000 data. The population within the WCIQ-DT Final DTV TOA facility's F(50,90) 36.0 dBuV/m noise limited contour (green) is predicted to be 2,547,295 persons. The map also depicts the Proposed WCIQ-DT facility's F(50,90) 36.0 dBuV/m noise limited contour (red) and the predicted population within that contour based on U.S. Census 2000 data. The population within the proposed facility's F(50,90) 36.0 dBuV/m noise limited contour (red) is predicted to be 2,475,502 persons. Therefore, the proposed WCIQ-DT facility is predicted to serve 71,793 persons less (2,547,295-2,475,502) than the WCIQ-DT Final DTV TOA facility which equates to a predicted 2.8% population reduction (71,793/2,547,295) which is well below the 5.0% reduction threshold to qualify for expedited processing.



**Kessler and Gehman Associates, Inc.**

Telecommunications Consulting Engineers

Accordingly, AETC respectfully requests expedited processing pursuant to §V.D.1. (¶140) of the R&O. This application meets all three of the following conditions required to qualify for expedited processing:

- (1) This application does not seek to expand the station's facilities beyond its final post-transition DTV Table Appendix B facilities;
- (2) This application specifies facilities that match or closely approximate the DTV Table Appendix B facilities (*i.e.*, if the station is unable to build precisely the facilities specified in the new DTV Table Appendix B, then it must apply for facilities that are no more than five percent smaller than its facility specified in Appendix B facilities with respect to predicted population); and
- (3) This application was filed within 45 days of the effective date of the Report and Order.

## **Exhibits**

Exhibits 1 and 2 represent WCIQ'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 WCIQ-DT site on a 7.5-Minute (Series) Topographic map.



Exhibit 8 is an FCC coverage contour map depicting the WCIQ-DT Channel 7 Final DTV TOA facility's F(50,90) 36.0 dBuV/m noise limited contour (green) and the proposed WCIQ-DT Channel 7 facility's F(50,90) 36.0 dBuV/m noise limited contour (red).

Exhibit 9 is a distance to contour tabulation of the WCIQ-DT Final DTV TOA facility. This exhibit depicts the distance, in kilometers, from the transmitter to the authorized WCIQ-DT Final DTV TOA noise limited contour in all azimuthal directions.

Exhibit 10 is a distance to contour tabulation of the proposed WCIQ-DT facility. This exhibit depicts the distance, in kilometers, from the transmitter to the proposed WCIQ-DT noise limited contour in all azimuthal directions.

Exhibit 11 is a distance to contour comparison tabulation spreadsheet between the WCIQ-DT Final DTV TOA facility and the proposed WCIQ-DT facility. The chart demonstrates that the Final DTV TOA facility's distance to contour values are greater than or equal to the proposed facility's distance to contour values in all azimuthal directions.

Exhibit 12 is a contour map depicting the WCIQ-DT Final DTV TOA facility's F(50,90) 36.0 dBuV/m noise limited contour (green) and the predicted population within that contour based on U.S. Census 2000 data. The map also depicts the proposed WCIQ-DT facility's F(50,90) 36.0 dBuV/m noise limited contour (red) and the predicted population within that contour based on U.S. Census 2000 data.

Exhibit 13 is a principal community contour map demonstrating that the proposed WCIQ-DT Channel 7 post-transition DTV facility's F(50,90) 43.0 dBuV/m Principal Community contour would completely encompass the principal community of Mount Cheaha, AL.



## **Environmental Impact**

The proposed construction would have no significant environmental impact as defined in §1.1307 of the FCC Rules. The digital transmitter, 3-1/8 inch (50-ohm) transmission line and antenna system shall produce an ERP of 24.0 kW. It was determined that the maximum lobe of radiation from the base of the tower would occur at approximately 824.2 feet from the base of the tower (839.6-foot radial distance from the antenna center). At approximately 824.2 feet from the base of the tower, the depression angle of the main lobe would be approximately 11° below the horizontal. At that point, the relative field is 0.283 and the power density six feet above the ground would be approximately 0.001 mW/cm<sup>2</sup>. This would only be 0.10% of the Maximum Permissible Exposure (MPE) limits for Occupational/Controlled Exposure and only 0.49% of the MPE limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute (ANSI).

Since operation of the proposed WCIQ-DT Channel 7 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 WCIQ-DT Channel 7 post-transition 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 applicant will cooperate with those users by reducing or completely terminating the power to the antenna when maintenance workers are in danger from electromagnetic radiation emanating from the antenna.

## **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



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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.  
WILLIAM T. GODFREY, JR.  
Telecommunications Technical Consultant

12 March, 2008

# **WCIQ-DT CHANNEL 7 POST-TRANSITION DTV FACILITY**

***MOUNT CHEAHA, ALABAMA***

## **ENGINEERING SPECIFICATIONS**

### ***A. Transmitter Site:***

Geographic coordinates (NAD 27):

North Latitude .....	<b>33° 29' 06"</b>
West Longitude .....	<b>85° 48' 32"</b>

Transmitter Site Location: **Located on Cheaha Mountain approximately 14.7 km ESE (111°) of Munford, AL**

### ***B. Main Studio Site:***

Street Address **2112 11<sup>TH</sup> Avenue South, Birmingham, AL 35205**

### ***C. Post-Transition Facility:***

DTV Channel .....	Number ..... <b>7</b>
Frequency .....	<b>174 - 180 MHz</b>
Offset .....	<b>N/A</b>

### ***D. Antenna Height:***

Height of Site Above Mean Sea Level (AMSL) .....	<b>715.9 M</b>
Overall Height of Structure Above Ground .....	<b>170.7 M</b>
(including all appurtenances)	
Overall Height of Structure Above Mean Sea Level .....	<b>886.6 M</b>
(including all appurtenances)	
Height of Site Above Average Terrain .....	<b>413.6 M</b>
Antenna Height Radiation Center (R/C) Above Ground .....	<b>162.2 M</b>
Antenna Height R/C Above Average Terrain .....	<b>575.8 M</b>
Antenna Height R/C Above Mean Sea Level .....	<b>878.1 M</b>
Average of All Non-Odd Radials .....	<b>302.3 M</b>

### ***E. System Parameters – Horizontal Polarization:***

Transmitter Power Required .....	<b>4.0 kW</b>
Maximum Power Input to Antenna .....	<b>3.4 kW</b>
Transmission Line Loss .....	<b>0.72 dB</b>
Transmission Line Efficiency .....	<b>84.7%</b>
Maximum Antenna Gain in Beam Maximum .....	<b>8.45 dB</b>
Maximum Antenna Gain in Horizontal Plane .....	<b>8.33 dB</b>
Maximum Effective Radiated Power .....	<b>13.80 dBk</b>
In Beam Maximum .....	<b>24.0 kW</b>
Maximum Effective Radiated Power .....	<b>13.68 dBk</b>
In Horizontal Plane .....	<b>23.3 kW</b>

# **WCIQ-DT CHANNEL 7 POST-TRANSITION DTV FACILITY**

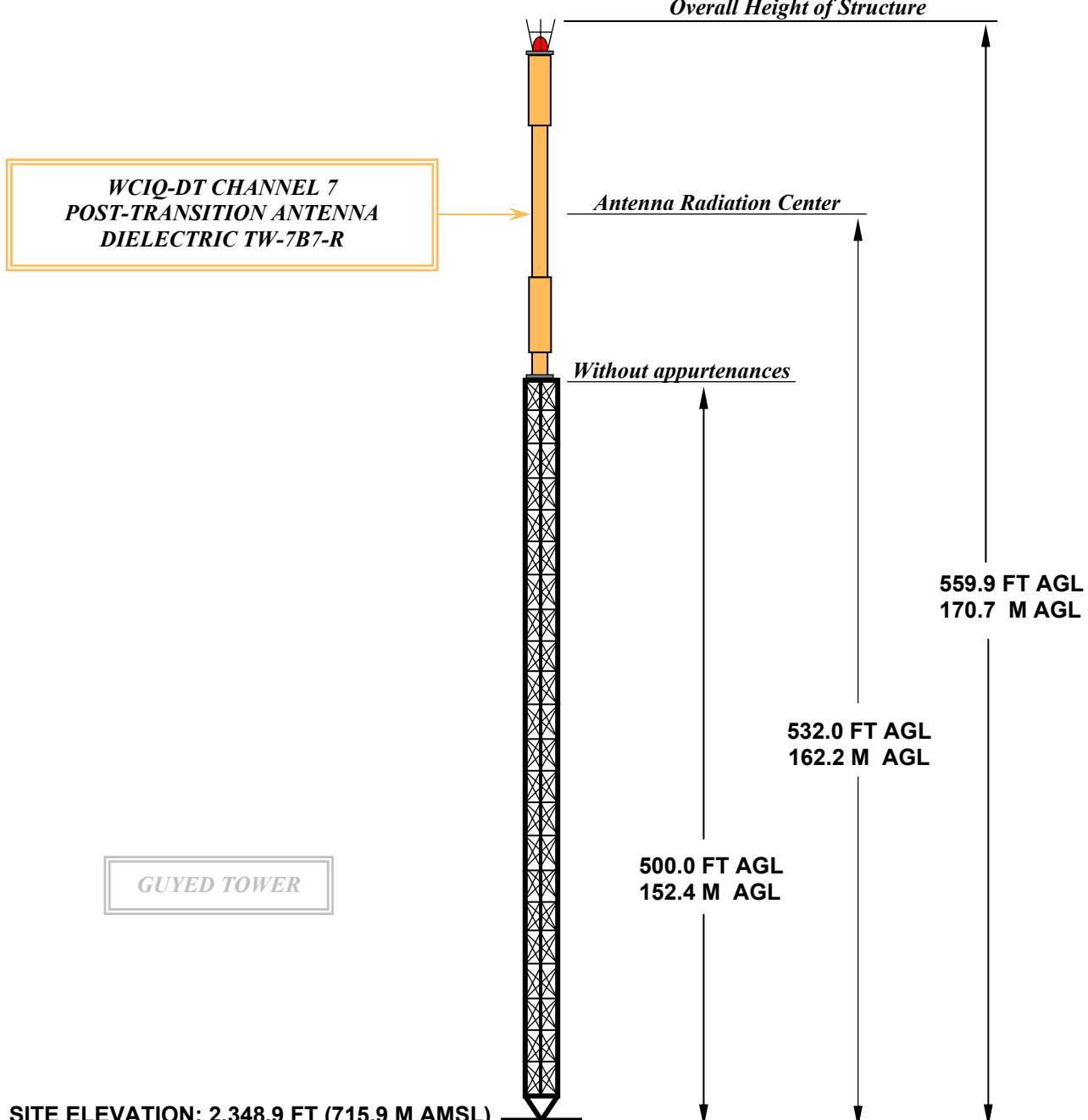
***MOUNT CHEAHA, ALABAMA***

## **DATA FOR PROPOSED NONDIRECTIONAL TRANSMITTING ANTENNA**

- A. **Antenna:** Dielectric Model TW-7B7-R, horizontally polarized, nondirectional, top-mount antenna.
- B. **Electrical Beam Tilt:** 0.75 degrees
- C. **Mechanical Beam Tilt:** None
- D. **RMS Gain**                           **Horizontal Polarization**

Maximum:	7.0 (8.45 dBd)
Horizontal:	6.8 (8.33 dBd)
- E. **Length:** 50.9 feet (15.5 meters) not including appurtenances.
- F. **Transmitter Power Output (TPO):** 4.0 kW
- G. **Transmission Line:** 3-1/8" 50-ohm EIA/DCA
- H. **Transmission Line Efficiency:** 84.7%
- I. **Transmission Line Length:** 550 feet (167.6 meters)
- J. **Transmission Line Loss:** 0.131 dB/100 ft
- K. **Transmission Line Attenuation:** 0.72 dB

## WCIQ-DT POST-TRANSITION ELEVATION VIEW



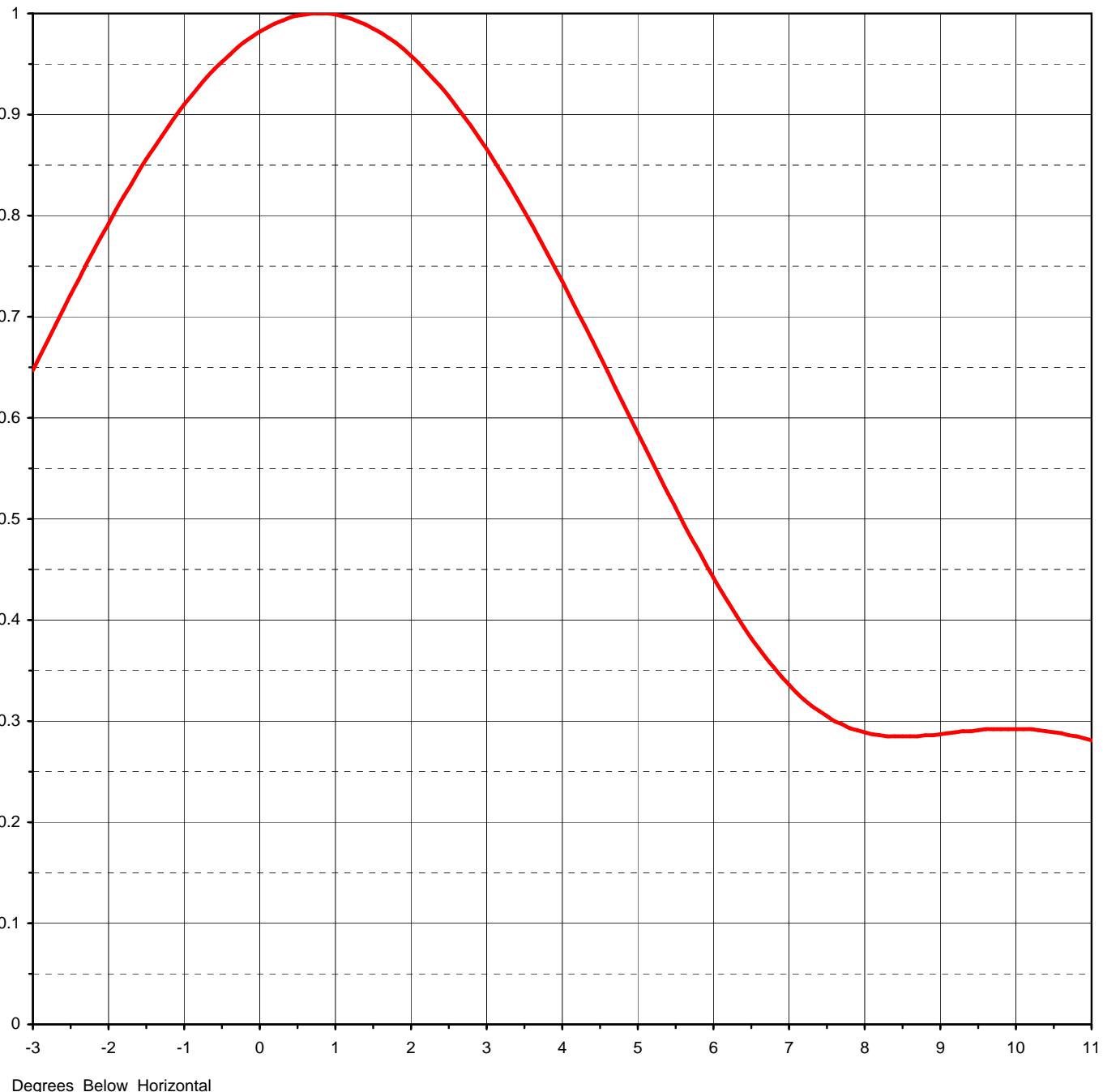
Antenna Structure Registration Number:  
1036421

NOTE: NOT TO SCALE

Proposal Number **C-02341**  
 Date **19-Feb-08**  
 Call Letters **WCIQ** Channel **7**  
 Location **Mt. Cheha, AL**  
 Customer **Alabama Public TV**  
 Antenna Type **TW-7B7-R**

### ELEVATION PATTERN

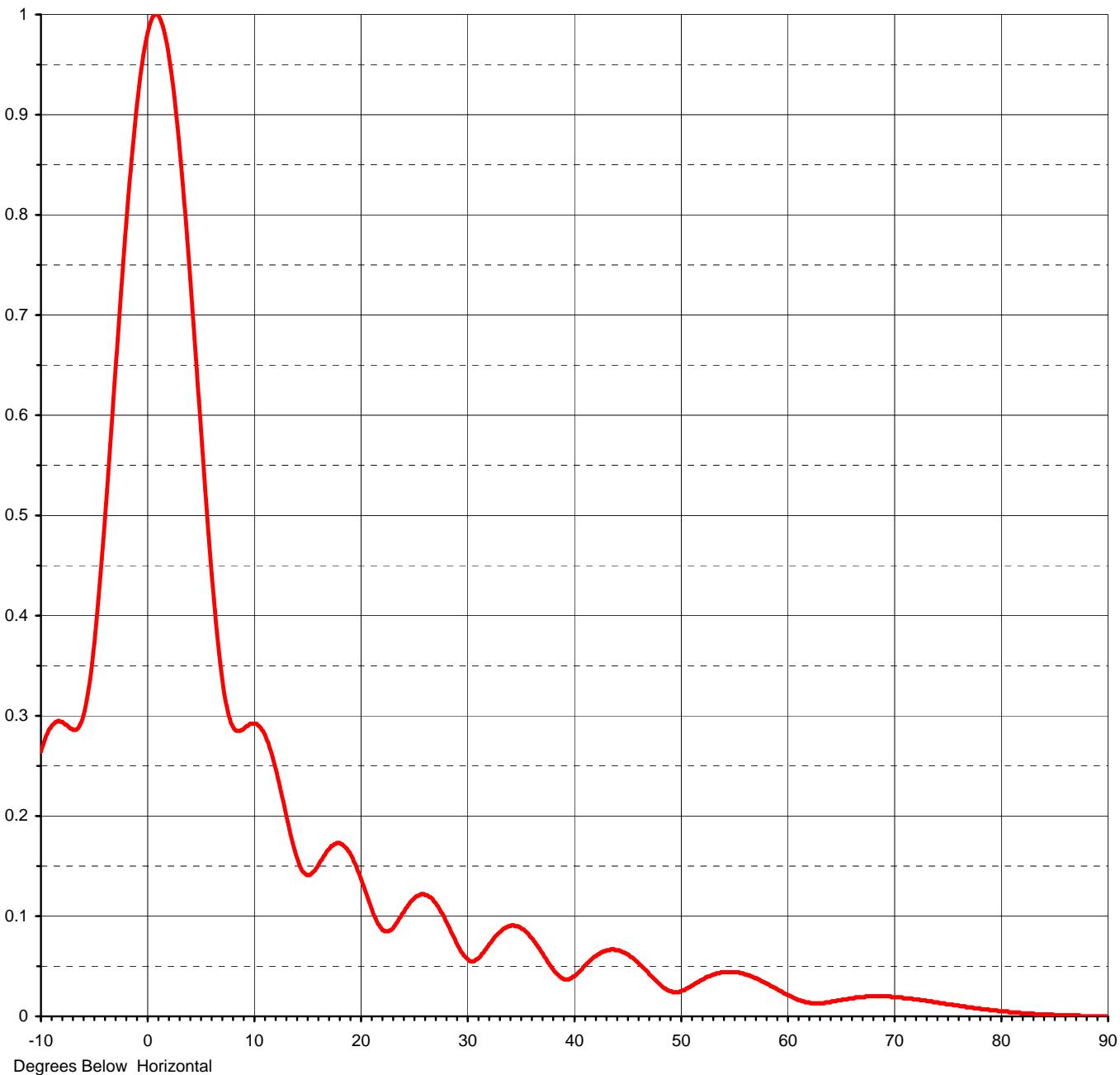
RMS Gain at Main Lobe	<b>7.00 ( 8.45 dB )</b>	Beam Tilt	<b>0.75 deg</b>
RMS Gain at Horizontal	<b>6.80 ( 8.33 dB )</b>	Frequency	<b>177.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>16W070075</b>



Proposal Number **C-02341**  
 Date **19-Feb-08**  
 Call Letters **WCIQ** Channel **7**  
 Location **Mt. Cheha, AL**  
 Customer **Alabama Public TV**  
 Antenna Type **TW-7B7-R**

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>7.00 ( 8.45 dB )</b>	Beam Tilt	<b>0.75 deg</b>
RMS Gain at Horizontal	<b>6.80 ( 8.33 dB )</b>	Frequency	<b>177.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>16W070075-90</b>





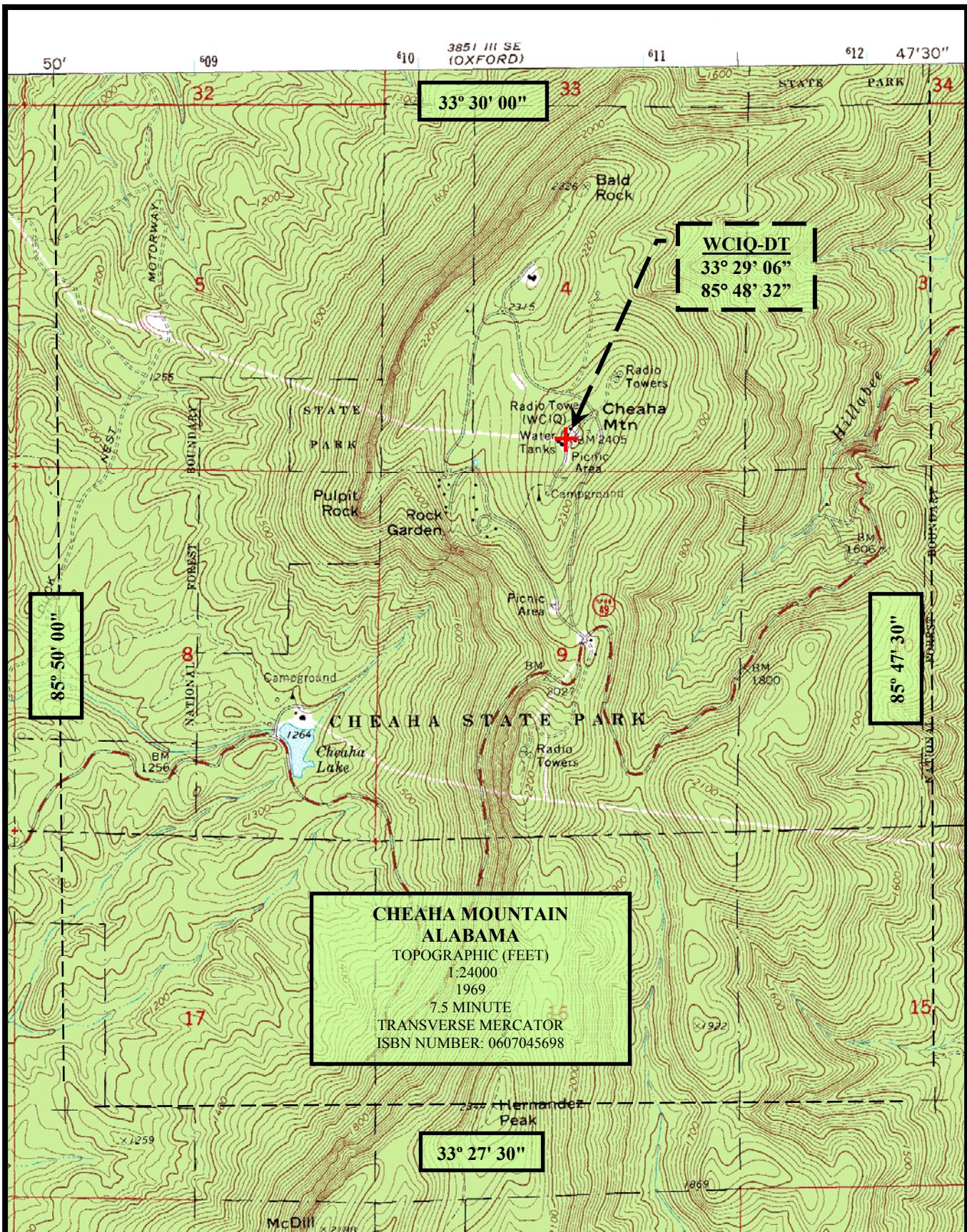
Proposal Number **C-02341**  
Date **19-Feb-08**  
Call Letters **WCIQ** Channel **7**  
Location **Mt. Cheha, AL**  
Customer **Alabama Public TV**  
Antenna Type **TW-7B7-R**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **16W070075-90**

Angle	Field										
-10.0	0.264	2.4	0.927	10.6	0.289	30.5	0.055	51.0	0.030	71.5	0.018
-9.5	0.280	2.6	0.908	10.8	0.286	31.0	0.057	51.5	0.033	72.0	0.017
-9.0	0.290	2.8	0.888	11.0	0.283	31.5	0.063	52.0	0.036	72.5	0.016
-8.5	0.294	3.0	0.866	11.5	0.269	32.0	0.070	52.5	0.039	73.0	0.015
-8.0	0.294	3.2	0.842	12.0	0.251	32.5	0.077	53.0	0.041	73.5	0.015
-7.5	0.290	3.4	0.817	12.5	0.229	33.0	0.083	53.5	0.043	74.0	0.014
-7.0	0.286	3.6	0.791	13.0	0.205	33.5	0.088	54.0	0.044	74.5	0.013
-6.5	0.288	3.8	0.763	13.5	0.181	34.0	0.090	54.5	0.044	75.0	0.012
-6.0	0.301	4.0	0.735	14.0	0.161	34.5	0.090	55.0	0.044	75.5	0.011
-5.5	0.329	4.2	0.705	14.5	0.147	35.0	0.089	55.5	0.044	76.0	0.011
-5.0	0.372	4.4	0.676	15.0	0.141	35.5	0.085	56.0	0.042	76.5	0.010
-4.5	0.430	4.6	0.646	15.5	0.143	36.0	0.079	56.5	0.041	77.0	0.009
-4.0	0.498	4.8	0.615	16.0	0.149	36.5	0.072	57.0	0.038	77.5	0.008
-3.5	0.571	5.0	0.585	16.5	0.158	37.0	0.064	57.5	0.036	78.0	0.008
-3.0	0.647	5.2	0.555	17.0	0.166	37.5	0.056	58.0	0.033	78.5	0.007
-2.8	0.677	5.4	0.525	17.5	0.171	38.0	0.048	58.5	0.030	79.0	0.006
-2.6	0.707	5.6	0.496	18.0	0.173	38.5	0.042	59.0	0.028	79.5	0.006
-2.4	0.736	5.8	0.469	18.5	0.170	39.0	0.038	59.5	0.025	80.0	0.005
-2.2	0.765	6.0	0.442	19.0	0.164	39.5	0.037	60.0	0.022	80.5	0.005
-2.0	0.792	6.2	0.417	19.5	0.153	40.0	0.040	60.5	0.019	81.0	0.004
-1.8	0.819	6.4	0.393	20.0	0.140	40.5	0.044	61.0	0.017	81.5	0.004
-1.6	0.844	6.6	0.372	20.5	0.125	41.0	0.050	61.5	0.015	82.0	0.003
-1.4	0.867	6.8	0.353	21.0	0.110	41.5	0.055	62.0	0.014	82.5	0.003
-1.2	0.889	7.0	0.336	21.5	0.097	42.0	0.060	62.5	0.013	83.0	0.003
-1.0	0.910	7.2	0.321	22.0	0.088	42.5	0.063	63.0	0.013	83.5	0.002
-0.8	0.928	7.4	0.310	22.5	0.085	43.0	0.065	63.5	0.013	84.0	0.002
-0.6	0.945	7.6	0.300	23.0	0.087	43.5	0.067	64.0	0.014	84.5	0.002
-0.4	0.959	7.8	0.293	23.5	0.094	44.0	0.066	64.5	0.015	85.0	0.001
-0.2	0.972	8.0	0.289	24.0	0.103	44.5	0.065	65.0	0.016	85.5	0.001
0.0	0.982	8.2	0.286	24.5	0.111	45.0	0.062	65.5	0.017	86.0	0.001
0.2	0.990	8.4	0.285	25.0	0.117	45.5	0.059	66.0	0.018	86.5	0.001
0.4	0.996	8.6	0.285	25.5	0.121	46.0	0.054	66.5	0.019	87.0	0.001
0.6	0.999	8.8	0.286	26.0	0.122	46.5	0.049	67.0	0.019	87.5	0.000
0.8	1.000	9.0	0.287	26.5	0.119	47.0	0.044	67.5	0.020	88.0	0.000
1.0	0.999	9.2	0.289	27.0	0.114	47.5	0.038	68.0	0.020	88.5	0.000
1.2	0.995	9.4	0.290	27.5	0.106	48.0	0.033	68.5	0.020	89.0	0.000
1.4	0.989	9.6	0.292	28.0	0.096	48.5	0.028	69.0	0.020	89.5	0.000
1.6	0.981	9.8	0.292	28.5	0.085	49.0	0.025	69.5	0.020	90.0	0.000
1.8	0.971	10.0	0.292	29.0	0.074	49.5	0.024	70.0	0.019		
2.0	0.958	10.2	0.292	29.5	0.064	50.0	0.025	70.5	0.019		
2.2	0.943	10.4	0.291	30.0	0.058	50.5	0.027	71.0	0.018		

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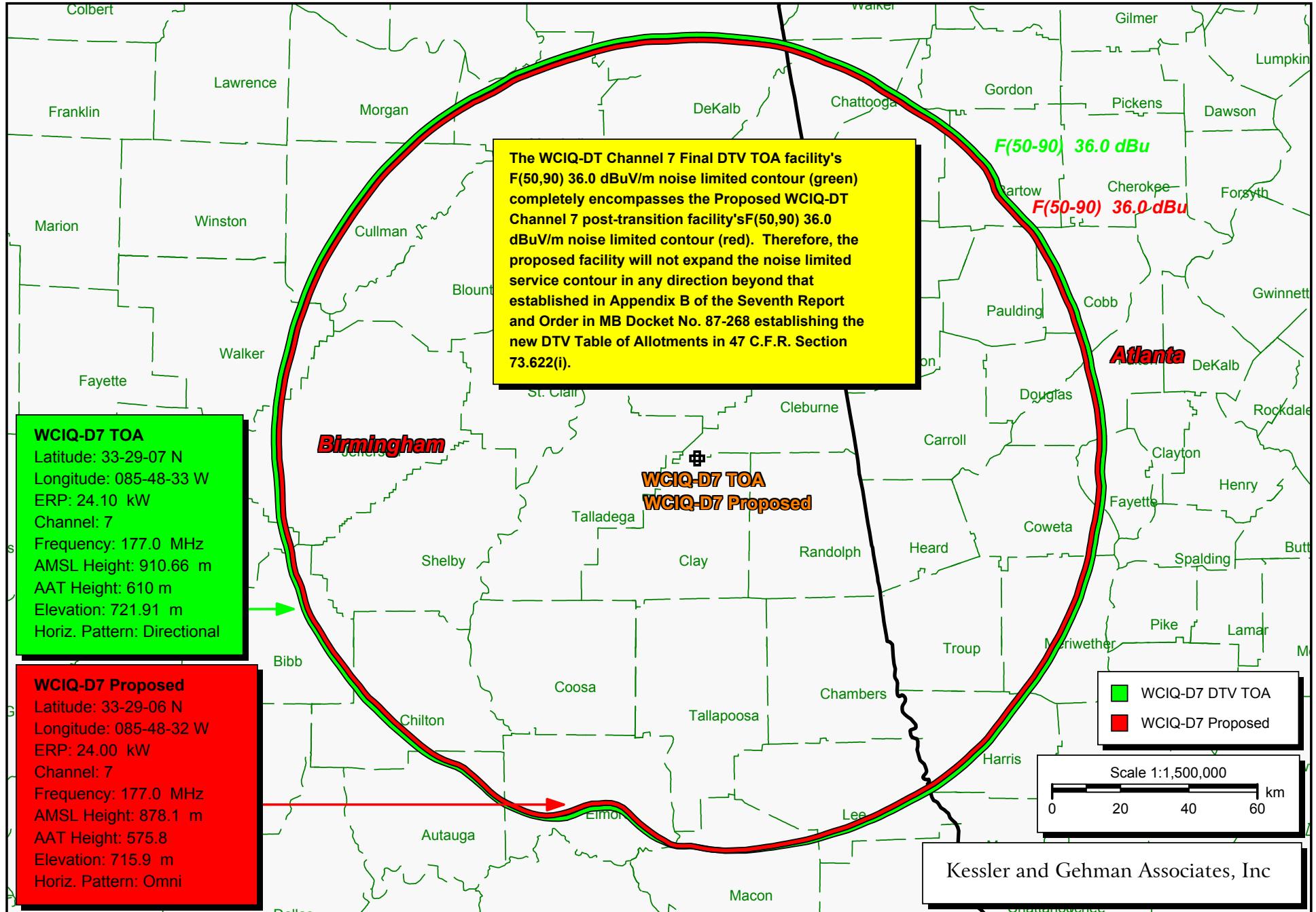


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**WCIQ-DT CHANNEL 7**  
*MOUNT CHEAHA, ALABAMA*

20080311

EXHIBIT 7



WCIQ-DT CH 7 DTV TOA F(50,90) 36 dBu Contour (Green) vs. Proposed F(50,90) 36 dBu Contour (Red)

EXHIBIT 8

Distance to Contour Values for WCIQ-DT Channel 7 Final DTV TOA Facility

Call Letters: WCIQ-D7 TOA  
Latitude: 33-29-07 N  
Longitude: 085-48-33 W  
ERP: 24.10 kW  
Channel: 7  
Frequency: 177.0 MHz  
AMSL Height: 910.66 m  
Elevation: 721.91 m  
Horiz. Antenna Pattern: Directional

Type of contour: FCC  
Location Variability: 50.0 %  
Time Variability: 90.0 %  
# of Radials Calculated: 360  
Field Strength: 36.00 dBuV/m

Primary Terrain: 3 Second US Terrain

Bearing (deg)	Distance (km)	HAAT (m)
0.0	123.8	664.3
1.0	123.8	664.7
2.0	123.8	664.7
3.0	123.7	664.6
4.0	123.7	663.4
5.0	123.7	663.2
6.0	123.7	663.5
7.0	123.7	664.4
8.0	123.7	665.9
9.0	123.8	667.4
10.0	123.9	669.1
11.0	123.9	670.2
12.0	123.9	669.5
13.0	123.8	667.6
14.0	123.6	664.7
15.0	123.4	661.4
16.0	123.3	659.2
17.0	123.1	654.7
18.0	122.9	650.5
19.0	122.8	649.6
20.0	122.8	648.9
21.0	122.7	648.2
22.0	122.6	646.0
23.0	122.5	643.9
24.0	122.3	641.6
25.0	122.2	638.5
26.0	121.8	632.3
27.0	121.5	627.2
28.0	121.4	625.7
29.0	121.4	624.6
30.0	121.3	624.0
31.0	121.1	620.4
32.0	121.0	619.7
33.0	121.0	619.8
34.0	121.1	621.5
35.0	121.2	623.9

Distance to Contour Values for WCIQ-DT Channel 7 Final DTV TOA Facility

36.0	121.3	624.2
37.0	121.2	624.1
38.0	121.3	625.2
39.0	121.3	625.3
40.0	121.2	623.8
41.0	121.1	622.6
42.0	121.0	621.0
43.0	120.8	618.1
44.0	120.8	617.6
45.0	120.7	615.4
46.0	120.2	606.5
47.0	119.6	597.4
48.0	118.6	581.8
49.0	117.9	571.7
50.0	117.9	570.9
51.0	118.0	573.4
52.0	118.2	576.4
53.0	118.4	578.8
54.0	118.6	582.4
55.0	119.0	588.4
56.0	119.3	593.4
57.0	119.4	595.1
58.0	119.3	593.4
59.0	119.2	592.1
60.0	119.1	590.9
61.0	119.2	591.8
62.0	119.2	591.8
63.0	119.0	589.5
64.0	119.0	588.4
65.0	118.9	586.9
66.0	118.7	584.8
67.0	118.7	584.8
68.0	118.9	587.2
69.0	118.8	587.1
70.0	118.6	584.0
71.0	118.6	583.1
72.0	118.6	583.8
73.0	118.6	583.4
74.0	118.7	584.4
75.0	118.6	583.8
76.0	118.6	582.8
77.0	118.3	579.3
78.0	118.3	579.6
79.0	118.5	582.0
80.0	118.6	583.3
81.0	118.7	585.7
82.0	118.8	587.6
83.0	119.0	589.3
84.0	119.0	590.4
85.0	119.0	590.1
86.0	119.1	591.3
87.0	119.1	591.4
88.0	119.0	590.3
89.0	118.9	588.6
90.0	118.6	584.4
91.0	118.4	581.5

Distance to Contour Values for WCIQ-DT Channel 7 Final DTV TOA Facility

92.0	118.4	580.6
93.0	118.6	584.8
94.0	119.1	591.7
95.0	119.1	592.2
96.0	119.1	592.2
97.0	119.1	591.1
98.0	119.0	590.1
99.0	119.0	589.5
100.0	118.8	586.8
101.0	118.7	586.2
102.0	118.9	588.1
103.0	118.9	589.0
104.0	119.1	591.6
105.0	119.2	592.8
106.0	119.2	593.3
107.0	119.1	592.1
108.0	119.1	591.7
109.0	119.1	592.5
110.0	119.3	594.5
111.0	119.2	593.7
112.0	119.1	592.1
113.0	119.1	591.6
114.0	119.0	590.4
115.0	119.0	590.0
116.0	119.0	590.0
117.0	118.9	588.1
118.0	118.8	586.3
119.0	118.8	586.5
120.0	118.8	586.7
121.0	118.7	585.3
122.0	118.6	584.2
123.0	118.6	583.9
124.0	118.5	582.1
125.0	118.4	579.8
126.0	118.3	579.0
127.0	118.3	579.0
128.0	118.3	578.6
129.0	118.3	578.9
130.0	118.4	580.8
131.0	118.6	583.1
132.0	118.6	584.3
133.0	118.9	587.6
134.0	119.1	591.2
135.0	119.1	592.0
136.0	119.1	590.9
137.0	119.0	590.2
138.0	119.1	591.4
139.0	119.1	591.7
140.0	119.1	591.3
141.0	119.0	590.9
142.0	119.0	590.2
143.0	119.0	590.0
144.0	118.9	589.3
145.0	118.7	586.4
146.0	118.5	583.5
147.0	118.3	581.2

Distance to Contour Values for WCIQ-DT Channel 7 Final DTV TOA Facility

148.0	118.1	577.9
149.0	118.0	576.0
150.0	117.9	575.1
151.0	117.8	574.1
152.0	117.7	572.6
153.0	117.7	572.6
154.0	117.6	571.1
155.0	117.4	568.7
156.0	117.4	568.3
157.0	117.3	568.0
158.0	117.3	567.4
159.0	117.1	564.4
160.0	116.9	561.8
161.0	116.8	560.9
162.0	116.8	561.0
163.0	116.7	560.4
164.0	116.7	559.8
165.0	116.4	556.7
166.0	116.2	553.9
167.0	116.1	552.0
168.0	116.0	550.3
169.0	115.9	549.8
170.0	115.8	547.7
171.0	115.7	546.9
172.0	115.6	546.6
173.0	115.6	545.8
174.0	115.3	542.0
175.0	115.1	539.7
176.0	115.0	537.9
177.0	114.7	532.1
178.0	114.4	526.7
179.0	114.0	519.5
180.0	113.6	511.7
181.0	113.4	506.3
182.0	113.5	508.9
183.0	113.5	509.1
184.0	113.2	501.8
185.0	112.5	488.5
186.0	111.9	478.2
187.0	111.1	466.1
188.0	110.0	453.6
189.0	109.0	440.8
190.0	107.7	425.7
191.0	106.4	409.8
192.0	105.5	397.5
193.0	105.1	392.2
194.0	105.2	392.9
195.0	105.7	399.3
196.0	106.4	408.1
197.0	107.1	416.4
198.0	108.5	433.4
199.0	110.3	453.4
200.0	111.8	471.5
201.0	112.8	486.8
202.0	113.5	500.6
203.0	114.2	513.7

Distance to Contour Values for WCIQ-DT Channel 7 Final DTV TOA Facility

204.0	114.7	523.4
205.0	115.1	531.4
206.0	115.3	535.2
207.0	115.4	537.8
208.0	115.6	540.1
209.0	115.7	542.3
210.0	115.7	541.8
211.0	115.5	537.3
212.0	115.2	530.9
213.0	114.7	521.8
214.0	114.5	516.1
215.0	114.3	511.8
216.0	114.2	509.3
217.0	114.1	507.7
218.0	114.4	514.2
219.0	115.1	528.7
220.0	115.8	541.7
221.0	116.5	553.2
222.0	117.0	560.3
223.0	117.3	565.2
224.0	117.5	568.7
225.0	117.7	571.2
226.0	117.9	573.8
227.0	118.1	576.9
228.0	118.3	580.4
229.0	118.6	584.8
230.0	118.8	587.1
231.0	119.0	590.4
232.0	119.2	593.6
233.0	119.6	599.4
234.0	120.0	605.9
235.0	120.1	608.0
236.0	120.2	608.7
237.0	120.4	613.3
238.0	120.6	616.7
239.0	120.7	618.6
240.0	121.0	622.4
241.0	121.2	627.2
242.0	121.5	632.5
243.0	121.7	635.8
244.0	121.9	638.8
245.0	122.1	641.7
246.0	122.4	647.1
247.0	122.7	653.6
248.0	122.9	656.9
249.0	122.9	657.8
250.0	122.8	655.0
251.0	122.7	651.4
252.0	122.6	649.6
253.0	122.8	653.6
254.0	123.1	658.5
255.0	123.0	656.6
256.0	122.8	652.9
257.0	122.7	649.0
258.0	122.7	649.4
259.0	122.9	653.5

Distance to Contour Values for WCIQ-DT Channel 7 Final DTV TOA Facility

260.0	123.1	656.6
261.0	123.2	658.3
262.0	123.3	659.8
263.0	123.2	656.9
264.0	123.1	654.1
265.0	123.0	651.4
266.0	122.9	650.1
267.0	122.9	650.1
268.0	123.0	651.7
269.0	123.3	655.8
270.0	123.5	659.6
271.0	123.5	660.5
272.0	123.7	663.6
273.0	123.8	665.3
274.0	123.8	667.0
275.0	123.8	666.8
276.0	123.8	666.7
277.0	123.9	668.6
278.0	124.0	668.8
279.0	123.9	667.9
280.0	123.9	668.3
281.0	124.0	668.9
282.0	123.9	668.1
283.0	123.9	666.1
284.0	123.8	664.4
285.0	123.8	664.1
286.0	123.9	665.8
287.0	124.0	668.9
288.0	124.1	671.6
289.0	124.2	672.1
290.0	124.2	671.3
291.0	124.2	671.7
292.0	124.3	673.8
293.0	124.4	675.9
294.0	124.4	676.5
295.0	124.4	677.2
296.0	124.5	678.2
297.0	124.5	679.0
298.0	124.5	678.7
299.0	124.5	677.8
300.0	124.5	676.9
301.0	124.4	676.1
302.0	124.4	675.7
303.0	124.4	675.3
304.0	124.4	675.6
305.0	124.5	676.3
306.0	124.5	676.8
307.0	124.5	677.4
308.0	124.6	678.0
309.0	124.6	679.4
310.0	124.7	681.5
311.0	124.8	683.5
312.0	124.8	684.3
313.0	124.8	684.2
314.0	124.8	682.9
315.0	124.7	681.5

Distance to Contour Values for WCIQ-DT Channel 7 Final DTV TOA Facility

316.0	124.7	681.3
317.0	124.7	681.9
318.0	124.8	683.0
319.0	124.8	684.3
320.0	124.9	684.7
321.0	124.8	684.5
322.0	124.8	683.6
323.0	124.7	682.2
324.0	124.7	680.5
325.0	124.6	678.9
326.0	124.5	676.8
327.0	124.4	674.5
328.0	124.3	673.0
329.0	124.1	667.6
330.0	124.0	664.9
331.0	123.8	662.4
332.0	123.9	663.2
333.0	124.0	665.7
334.0	124.2	670.3
335.0	124.2	670.9
336.0	124.0	667.6
337.0	124.0	665.7
338.0	123.9	664.5
339.0	123.9	663.9
340.0	123.9	663.7
341.0	123.8	662.9
342.0	123.8	663.2
343.0	123.8	662.3
344.0	123.8	662.9
345.0	123.8	664.0
346.0	124.0	666.5
347.0	124.0	667.6
348.0	124.0	668.6
349.0	124.1	670.1
350.0	124.1	669.4
351.0	124.0	667.9
352.0	124.0	668.6
353.0	124.1	669.7
354.0	124.0	667.6
355.0	123.8	664.1
356.0	123.7	661.5
357.0	123.6	661.4
358.0	123.7	662.6
359.0	123.7	663.9

## Distance to Contour Values for WCIQ-DT Channel 7 Proposed Facility

Call Letters: WCIQ-D7 Proposed

Latitude: 33-29-06 N

Longitude: 085-48-32 W

ERP: 24.00 kW

Channel: 7

Frequency: 177.0 MHz

AMSL Height: 878.1 m

Elevation: 715.9 m

Horiz. Antenna Pattern: Omni

Type of contour: FCC

Location Variability: 50.0 %

Time Variability: 90.0 %

# of Radials Calculated: 360

Field Strength: 36.00 dBuV/m

Primary Terrain: 3 Second US Terrain

Bearing (deg)	Distance (km)	HAAT (m)
0.0	122.3	631.6
1.0	122.3	631.9
2.0	122.3	631.8
3.0	122.3	631.5
4.0	122.2	630.5
5.0	122.2	630.5
6.0	122.2	630.9
7.0	122.3	632.0
8.0	122.4	633.5
9.0	122.5	635.0
10.0	122.5	636.6
11.0	122.6	637.4
12.0	122.5	636.0
13.0	122.4	634.0
14.0	122.2	630.9
15.0	122.1	627.8
16.0	121.9	625.3
17.0	121.6	620.5
18.0	121.4	616.7
19.0	121.4	616.6
20.0	121.4	616.0
21.0	121.3	615.1
22.0	121.2	612.6
23.0	121.1	610.4
24.0	120.9	608.0
25.0	120.7	604.2
26.0	120.3	597.7
27.0	120.0	593.2
28.0	119.9	592.1
29.0	119.9	591.3
30.0	119.8	589.9
31.0	119.6	587.1
32.0	119.6	586.6
33.0	119.6	587.5
34.0	119.8	589.6
35.0	119.9	592.1
36.0	119.9	592.4

Distance to Contour Values for WCIQ-DT Channel 7 Proposed Facility

37.0	119.9	592.4
38.0	120.0	593.3
39.0	120.0	592.7
40.0	119.9	591.4
41.0	119.8	590.4
42.0	119.7	588.4
43.0	119.5	585.7
44.0	119.5	585.4
45.0	119.2	582.0
46.0	118.6	572.7
47.0	117.9	562.4
48.0	116.9	546.1
49.0	116.4	538.1
50.0	116.5	538.6
51.0	116.6	541.1
52.0	116.8	543.6
53.0	116.9	546.4
54.0	117.2	550.5
55.0	117.6	556.7
56.0	117.9	561.4
57.0	117.9	561.9
58.0	117.8	560.2
59.0	117.7	559.0
60.0	117.7	558.6
61.0	117.7	559.5
62.0	117.7	559.1
63.0	117.6	556.6
64.0	117.5	555.6
65.0	117.4	553.9
66.0	117.3	552.0
67.0	117.3	552.4
68.0	117.4	554.9
69.0	117.4	554.1
70.0	117.2	551.2
71.0	117.2	550.9
72.0	117.2	551.3
73.0	117.2	551.2
74.0	117.3	552.2
75.0	117.2	551.3
76.0	117.2	550.2
77.0	116.9	546.8
78.0	117.0	547.8
79.0	117.1	549.7
80.0	117.2	551.3
81.0	117.4	553.6
82.0	117.5	555.5
83.0	117.6	557.5
84.0	117.7	558.1
85.0	117.6	558.0
86.0	117.7	559.0
87.0	117.7	558.9
88.0	117.6	557.6
89.0	117.5	555.8
90.0	117.2	551.3
91.0	117.0	548.5
92.0	117.0	547.8
93.0	117.3	553.2

Distance to Contour Values for WCIQ-DT Channel 7 Proposed Facility

94.0	117.8	559.7
95.0	117.7	559.5
96.0	117.8	559.6
97.0	117.7	558.4
98.0	117.6	557.6
99.0	117.6	557.0
100.0	117.4	554.2
101.0	117.4	554.0
102.0	117.5	556.0
103.0	117.6	556.9
104.0	117.8	559.9
105.0	117.8	560.5
106.0	117.8	560.9
107.0	117.7	559.5
108.0	117.7	559.2
109.0	117.8	560.2
110.0	117.9	562.1
111.0	117.9	561.2
112.0	117.8	559.8
113.0	117.7	559.2
114.0	117.6	557.8
115.0	117.6	557.6
116.0	117.6	557.4
117.0	117.5	555.4
118.0	117.4	553.6
119.0	117.4	554.1
120.0	117.4	554.2
121.0	117.3	552.8
122.0	117.3	551.8
123.0	117.2	551.4
124.0	117.1	549.4
125.0	117.0	547.2
126.0	116.9	546.5
127.0	116.9	546.4
128.0	116.9	545.9
129.0	116.9	546.4
130.0	117.0	548.4
131.0	117.2	550.7
132.0	117.3	552.0
133.0	117.5	555.4
134.0	117.7	558.8
135.0	117.8	559.6
136.0	117.7	558.5
137.0	117.6	557.8
138.0	117.7	559.0
139.0	117.7	559.4
140.0	117.7	558.9
141.0	117.7	558.5
142.0	117.6	557.8
143.0	117.6	557.7
144.0	117.6	557.0
145.0	117.4	554.2
146.0	117.2	551.2
147.0	117.1	548.9
148.0	116.9	545.6
149.0	116.8	543.8
150.0	116.7	542.9

Distance to Contour Values for WCIQ-DT Channel 7 Proposed Facility

151.0	116.7	541.9
152.0	116.6	540.5
153.0	116.6	540.5
154.0	116.5	539.1
155.0	116.4	536.7
156.0	116.3	536.3
157.0	116.3	536.1
158.0	116.3	535.6
159.0	116.2	532.9
160.0	116.0	530.0
161.0	115.9	528.8
162.0	116.0	529.1
163.0	115.9	528.6
164.0	115.9	528.0
165.0	115.7	525.1
166.0	115.6	522.2
167.0	115.5	520.2
168.0	115.4	518.2
169.0	115.4	517.8
170.0	115.3	515.5
171.0	115.3	514.8
172.0	115.2	514.3
173.0	115.2	514.2
174.0	115.1	510.8
175.0	115.0	508.4
176.0	114.9	506.9
177.0	114.6	501.3
178.0	114.4	496.0
179.0	114.0	489.3
180.0	113.6	481.8
181.0	113.2	475.8
182.0	113.3	477.3
183.0	113.4	478.1
184.0	113.0	472.1
185.0	112.0	459.5
186.0	111.1	449.6
187.0	110.1	437.8
188.0	109.0	425.1
189.0	107.9	412.1
190.0	106.7	396.6
191.0	105.4	379.9
192.0	104.3	366.2
193.0	103.8	359.8
194.0	103.8	359.0
195.0	104.2	364.5
196.0	104.9	373.4
197.0	105.5	381.1
198.0	106.6	395.9
199.0	108.2	415.6
200.0	109.8	434.4
201.0	111.2	450.1
202.0	112.4	464.4
203.0	113.4	477.9
204.0	114.0	488.3
205.0	114.4	496.8
206.0	114.7	501.6
207.0	114.8	504.3

Distance to Contour Values for WCIQ-DT Channel 7 Proposed Facility

208.0	114.9	506.4
209.0	115.0	509.0
210.0	115.0	509.1
211.0	114.8	505.5
212.0	114.5	499.3
213.0	114.1	490.5
214.0	113.7	484.0
215.0	113.5	479.3
216.0	113.3	476.6
217.0	113.1	474.3
218.0	113.5	479.3
219.0	114.2	493.2
220.0	114.9	507.2
221.0	115.4	518.6
222.0	115.8	526.6
223.0	116.1	531.5
224.0	116.3	535.2
225.0	116.4	537.8
226.0	116.6	540.6
227.0	116.8	543.8
228.0	117.0	547.3
229.0	117.3	551.8
230.0	117.4	554.4
231.0	117.6	557.3
232.0	117.8	560.1
233.0	118.1	565.2
234.0	118.6	572.8
235.0	118.8	575.4
236.0	118.8	575.5
237.0	119.1	579.3
238.0	119.3	583.4
239.0	119.5	585.3
240.0	119.7	588.8
241.0	120.0	593.4
242.0	120.4	598.7
243.0	120.6	602.0
244.0	120.8	605.7
245.0	120.9	608.5
246.0	121.2	612.9
247.0	121.6	619.7
248.0	121.8	623.7
249.0	121.9	625.3
250.0	121.8	622.9
251.0	121.6	619.1
252.0	121.4	616.6
253.0	121.6	619.3
254.0	121.9	625.6
255.0	121.9	624.7
256.0	121.7	621.2
257.0	121.4	616.7
258.0	121.4	616.3
259.0	121.6	620.1
260.0	121.8	623.6
261.0	121.9	625.4
262.0	122.0	627.3
263.0	121.9	624.6
264.0	121.7	621.7

Distance to Contour Values for WCIQ-DT Channel 7 Proposed Facility

265.0	121.6	618.9
266.0	121.5	617.2
267.0	121.4	617.1
268.0	121.5	618.5
269.0	121.7	622.2
270.0	122.0	626.6
271.0	122.0	627.3
272.0	122.2	630.2
273.0	122.3	631.9
274.0	122.4	633.5
275.0	122.4	633.9
276.0	122.4	633.8
277.0	122.5	635.6
278.0	122.5	636.0
279.0	122.5	635.1
280.0	122.5	635.5
281.0	122.5	636.0
282.0	122.5	635.3
283.0	122.4	633.6
284.0	122.3	631.7
285.0	122.2	631.2
286.0	122.3	632.6
287.0	122.5	635.5
288.0	122.6	638.5
289.0	122.7	639.2
290.0	122.6	638.4
291.0	122.6	638.6
292.0	122.8	640.6
293.0	122.9	642.8
294.0	122.9	643.5
295.0	122.9	644.2
296.0	123.0	645.1
297.0	123.0	646.1
298.0	123.0	645.8
299.0	123.0	644.9
300.0	122.9	643.9
301.0	122.9	643.2
302.0	122.9	642.8
303.0	122.8	642.4
304.0	122.9	642.5
305.0	122.9	643.3
306.0	122.9	643.8
307.0	123.0	644.4
308.0	123.0	645.0
309.0	123.1	646.3
310.0	123.2	648.4
311.0	123.3	650.5
312.0	123.3	651.4
313.0	123.3	651.3
314.0	123.2	650.1
315.0	123.2	648.7
316.0	123.2	648.4
317.0	123.2	648.9
318.0	123.2	650.0
319.0	123.3	651.4
320.0	123.3	651.8
321.0	123.3	651.6

Distance to Contour Values for WCIQ-DT Channel 7 Proposed Facility

322.0	123.3	650.8
323.0	123.2	649.4
324.0	123.1	647.7
325.0	123.0	646.1
326.0	122.9	644.0
327.0	122.8	641.8
328.0	122.7	640.4
329.0	122.5	635.1
330.0	122.3	632.6
331.0	122.2	630.3
332.0	122.2	631.2
333.0	122.4	633.7
334.0	122.6	638.2
335.0	122.6	638.4
336.0	122.5	635.2
337.0	122.4	633.5
338.0	122.3	632.4
339.0	122.3	631.7
340.0	122.3	631.5
341.0	122.2	630.5
342.0	122.2	630.7
343.0	122.2	630.0
344.0	122.2	630.5
345.0	122.3	631.7
346.0	122.4	633.9
347.0	122.4	634.8
348.0	122.5	635.9
349.0	122.6	637.3
350.0	122.5	636.4
351.0	122.5	635.0
352.0	122.5	635.9
353.0	122.5	636.7
354.0	122.4	634.3
355.0	122.2	630.8
356.0	122.1	628.6
357.0	122.1	628.7
358.0	122.2	630.1
359.0	122.3	631.3

**WCIQ-DT (Final DTV TOA) and WCIQ-DT (Proposed) Distance to Contour Comparison Chart**

Radial	WCIQ-DT Final DTV TOA distance to contours (km)	WCIQ-DT Proposed distance to contours (km)	PASS OR FAIL	Difference (km)
0	123.8	122.3	PASS	1.5
1	123.8	122.3	PASS	1.5
2	123.8	122.3	PASS	1.5
3	123.7	122.3	PASS	1.4
4	123.7	122.2	PASS	1.5
5	123.7	122.2	PASS	1.5
6	123.7	122.2	PASS	1.5
7	123.7	122.3	PASS	1.4
8	123.7	122.4	PASS	1.3
9	123.8	122.5	PASS	1.3
10	123.9	122.5	PASS	1.4
11	123.9	122.6	PASS	1.3
12	123.9	122.5	PASS	1.4
13	123.8	122.4	PASS	1.4
14	123.6	122.2	PASS	1.4
15	123.4	122.1	PASS	1.3
16	123.3	121.9	PASS	1.4
17	123.1	121.6	PASS	1.5
18	122.9	121.4	PASS	1.5
19	122.8	121.4	PASS	1.4
20	122.8	121.4	PASS	1.4
21	122.7	121.3	PASS	1.4
22	122.6	121.2	PASS	1.4
23	122.5	121.1	PASS	1.4
24	122.3	120.9	PASS	1.4
25	122.2	120.7	PASS	1.5
26	121.8	120.3	PASS	1.5
27	121.5	120.0	PASS	1.5
28	121.4	119.9	PASS	1.5
29	121.4	119.9	PASS	1.5
30	121.3	119.8	PASS	1.5
31	121.1	119.6	PASS	1.5
32	121.0	119.6	PASS	1.4
33	121.0	119.6	PASS	1.4
34	121.1	119.8	PASS	1.3
35	121.2	119.9	PASS	1.3
36	121.3	119.9	PASS	1.4
37	121.2	119.9	PASS	1.3
38	121.3	120.0	PASS	1.3
39	121.3	120.0	PASS	1.3
40	121.2	119.9	PASS	1.3
41	121.1	119.8	PASS	1.3
42	121.0	119.7	PASS	1.3
43	120.8	119.5	PASS	1.3
44	120.8	119.5	PASS	1.3
45	120.7	119.2	PASS	1.5
46	120.2	118.6	PASS	1.6
47	119.6	117.9	PASS	1.7

**WCIQ-DT (Final DTV TOA) and WCIQ-DT (Proposed) Distance to Contour Comparison Chart**

48	118.6	116.9	PASS	1.7
49	117.9	116.4	PASS	1.5
50	117.9	116.5	PASS	1.4
51	118.0	116.6	PASS	1.4
52	118.2	116.8	PASS	1.4
53	118.4	116.9	PASS	1.5
54	118.6	117.2	PASS	1.4
55	119.0	117.6	PASS	1.4
56	119.3	117.9	PASS	1.4
57	119.4	117.9	PASS	1.5
58	119.3	117.8	PASS	1.5
59	119.2	117.7	PASS	1.5
60	119.1	117.7	PASS	1.4
61	119.2	117.7	PASS	1.5
62	119.2	117.7	PASS	1.5
63	119.0	117.6	PASS	1.4
64	119.0	117.5	PASS	1.5
65	118.9	117.4	PASS	1.5
66	118.7	117.3	PASS	1.4
67	118.7	117.3	PASS	1.4
68	118.9	117.4	PASS	1.5
69	118.8	117.4	PASS	1.4
70	118.6	117.2	PASS	1.4
71	118.6	117.2	PASS	1.4
72	118.6	117.2	PASS	1.4
73	118.6	117.2	PASS	1.4
74	118.7	117.3	PASS	1.4
75	118.6	117.2	PASS	1.4
76	118.6	117.2	PASS	1.4
77	118.3	116.9	PASS	1.4
78	118.3	117.0	PASS	1.3
79	118.5	117.1	PASS	1.4
80	118.6	117.2	PASS	1.4
81	118.7	117.4	PASS	1.3
82	118.8	117.5	PASS	1.3
83	119.0	117.6	PASS	1.4
84	119.0	117.7	PASS	1.3
85	119.0	117.6	PASS	1.4
86	119.1	117.7	PASS	1.4
87	119.1	117.7	PASS	1.4
88	119.0	117.6	PASS	1.4
89	118.9	117.5	PASS	1.4
90	118.6	117.2	PASS	1.4
91	118.4	117.0	PASS	1.4
92	118.4	117.0	PASS	1.4
93	118.6	117.3	PASS	1.3
94	119.1	117.8	PASS	1.3
95	119.1	117.7	PASS	1.4
96	119.1	117.8	PASS	1.3
97	119.1	117.7	PASS	1.4
98	119.0	117.6	PASS	1.4

**WCIQ-DT (Final DTV TOA) and WCIQ-DT (Proposed) Distance to Contour Comparison Chart**

99	119.0	117.6	PASS	1.4
100	118.8	117.4	PASS	1.4
101	118.7	117.4	PASS	1.3
102	118.9	117.5	PASS	1.4
103	118.9	117.6	PASS	1.3
104	119.1	117.8	PASS	1.3
105	119.2	117.8	PASS	1.4
106	119.2	117.8	PASS	1.4
107	119.1	117.7	PASS	1.4
108	119.1	117.7	PASS	1.4
109	119.1	117.8	PASS	1.3
110	119.3	117.9	PASS	1.4
111	119.2	117.9	PASS	1.3
112	119.1	117.8	PASS	1.3
113	119.1	117.7	PASS	1.4
114	119.0	117.6	PASS	1.4
115	119.0	117.6	PASS	1.4
116	119.0	117.6	PASS	1.4
117	118.9	117.5	PASS	1.4
118	118.8	117.4	PASS	1.4
119	118.8	117.4	PASS	1.4
120	118.8	117.4	PASS	1.4
121	118.7	117.3	PASS	1.4
122	118.6	117.3	PASS	1.3
123	118.6	117.2	PASS	1.4
124	118.5	117.1	PASS	1.4
125	118.4	117.0	PASS	1.4
126	118.3	116.9	PASS	1.4
127	118.3	116.9	PASS	1.4
128	118.3	116.9	PASS	1.4
129	118.3	116.9	PASS	1.4
130	118.4	117.0	PASS	1.4
131	118.6	117.2	PASS	1.4
132	118.6	117.3	PASS	1.3
133	118.9	117.5	PASS	1.4
134	119.1	117.7	PASS	1.4
135	119.1	117.8	PASS	1.3
136	119.1	117.7	PASS	1.4
137	119.0	117.6	PASS	1.4
138	119.1	117.7	PASS	1.4
139	119.1	117.7	PASS	1.4
140	119.1	117.7	PASS	1.4
141	119.0	117.7	PASS	1.3
142	119.0	117.6	PASS	1.4
143	119.0	117.6	PASS	1.4
144	118.9	117.6	PASS	1.3
145	118.7	117.4	PASS	1.3
146	118.5	117.2	PASS	1.3
147	118.3	117.1	PASS	1.2
148	118.1	116.9	PASS	1.2
149	118.0	116.8	PASS	1.2

**WCIQ-DT (Final DTV TOA) and WCIQ-DT (Proposed) Distance to Contour Comparison Chart**

150	117.9	116.7	PASS	1.2
151	117.8	116.7	PASS	1.1
152	117.7	116.6	PASS	1.1
153	117.7	116.6	PASS	1.1
154	117.6	116.5	PASS	1.1
155	117.4	116.4	PASS	1.0
156	117.4	116.3	PASS	1.1
157	117.3	116.3	PASS	1.0
158	117.3	116.3	PASS	1.0
159	117.1	116.2	PASS	0.9
160	116.9	116.0	PASS	0.9
161	116.8	115.9	PASS	0.9
162	116.8	116.0	PASS	0.8
163	116.7	115.9	PASS	0.8
164	116.7	115.9	PASS	0.8
165	116.4	115.7	PASS	0.7
166	116.2	115.6	PASS	0.6
167	116.1	115.5	PASS	0.6
168	116.0	115.4	PASS	0.6
169	115.9	115.4	PASS	0.5
170	115.8	115.3	PASS	0.5
171	115.7	115.3	PASS	0.4
172	115.6	115.2	PASS	0.4
173	115.6	115.2	PASS	0.4
174	115.3	115.1	PASS	0.2
175	115.1	115.0	PASS	0.1
176	115.0	114.9	PASS	0.1
177	114.7	114.6	PASS	0.1
178	114.4	114.4	PASS	0.0
179	114.0	114.0	PASS	0.0
180	113.6	113.6	PASS	0.0
181	113.4	113.2	PASS	0.2
182	113.5	113.3	PASS	0.2
183	113.5	113.4	PASS	0.1
184	113.2	113.0	PASS	0.2
185	112.5	112.0	PASS	0.5
186	111.9	111.1	PASS	0.8
187	111.1	110.1	PASS	1.0
188	110.0	109.0	PASS	1.0
189	109.0	107.9	PASS	1.1
190	107.7	106.7	PASS	1.0
191	106.4	105.4	PASS	1.0
192	105.5	104.3	PASS	1.2
193	105.1	103.8	PASS	1.3
194	105.2	103.8	PASS	1.4
195	105.7	104.2	PASS	1.5
196	106.4	104.9	PASS	1.5
197	107.1	105.5	PASS	1.6
198	108.5	106.6	PASS	1.9
199	110.3	108.2	PASS	2.1
200	111.8	109.8	PASS	2.0

**WCIQ-DT (Final DTV TOA) and WCIQ-DT (Proposed) Distance to Contour Comparison Chart**

201	112.8	111.2	PASS	1.6
202	113.5	112.4	PASS	1.1
203	114.2	113.4	PASS	0.8
204	114.7	114.0	PASS	0.7
205	115.1	114.4	PASS	0.7
206	115.3	114.7	PASS	0.6
207	115.4	114.8	PASS	0.6
208	115.6	114.9	PASS	0.7
209	115.7	115.0	PASS	0.7
210	115.7	115.0	PASS	0.7
211	115.5	114.8	PASS	0.7
212	115.2	114.5	PASS	0.7
213	114.7	114.1	PASS	0.6
214	114.5	113.7	PASS	0.8
215	114.3	113.5	PASS	0.8
216	114.2	113.3	PASS	0.9
217	114.1	113.1	PASS	1.0
218	114.4	113.5	PASS	0.9
219	115.1	114.2	PASS	0.9
220	115.8	114.9	PASS	0.9
221	116.5	115.4	PASS	1.1
222	117.0	115.8	PASS	1.2
223	117.3	116.1	PASS	1.2
224	117.5	116.3	PASS	1.2
225	117.7	116.4	PASS	1.3
226	117.9	116.6	PASS	1.3
227	118.1	116.8	PASS	1.3
228	118.3	117.0	PASS	1.3
229	118.6	117.3	PASS	1.3
230	118.8	117.4	PASS	1.4
231	119.0	117.6	PASS	1.4
232	119.2	117.8	PASS	1.4
233	119.6	118.1	PASS	1.5
234	120.0	118.6	PASS	1.4
235	120.1	118.8	PASS	1.3
236	120.2	118.8	PASS	1.4
237	120.4	119.1	PASS	1.3
238	120.6	119.3	PASS	1.3
239	120.7	119.5	PASS	1.2
240	121.0	119.7	PASS	1.3
241	121.2	120.0	PASS	1.2
242	121.5	120.4	PASS	1.1
243	121.7	120.6	PASS	1.1
244	121.9	120.8	PASS	1.1
245	122.1	120.9	PASS	1.2
246	122.4	121.2	PASS	1.2
247	122.7	121.6	PASS	1.1
248	122.9	121.8	PASS	1.1
249	122.9	121.9	PASS	1.0
250	122.8	121.8	PASS	1.0
251	122.7	121.6	PASS	1.1

**WCIQ-DT (Final DTV TOA) and WCIQ-DT (Proposed) Distance to Contour Comparison Chart**

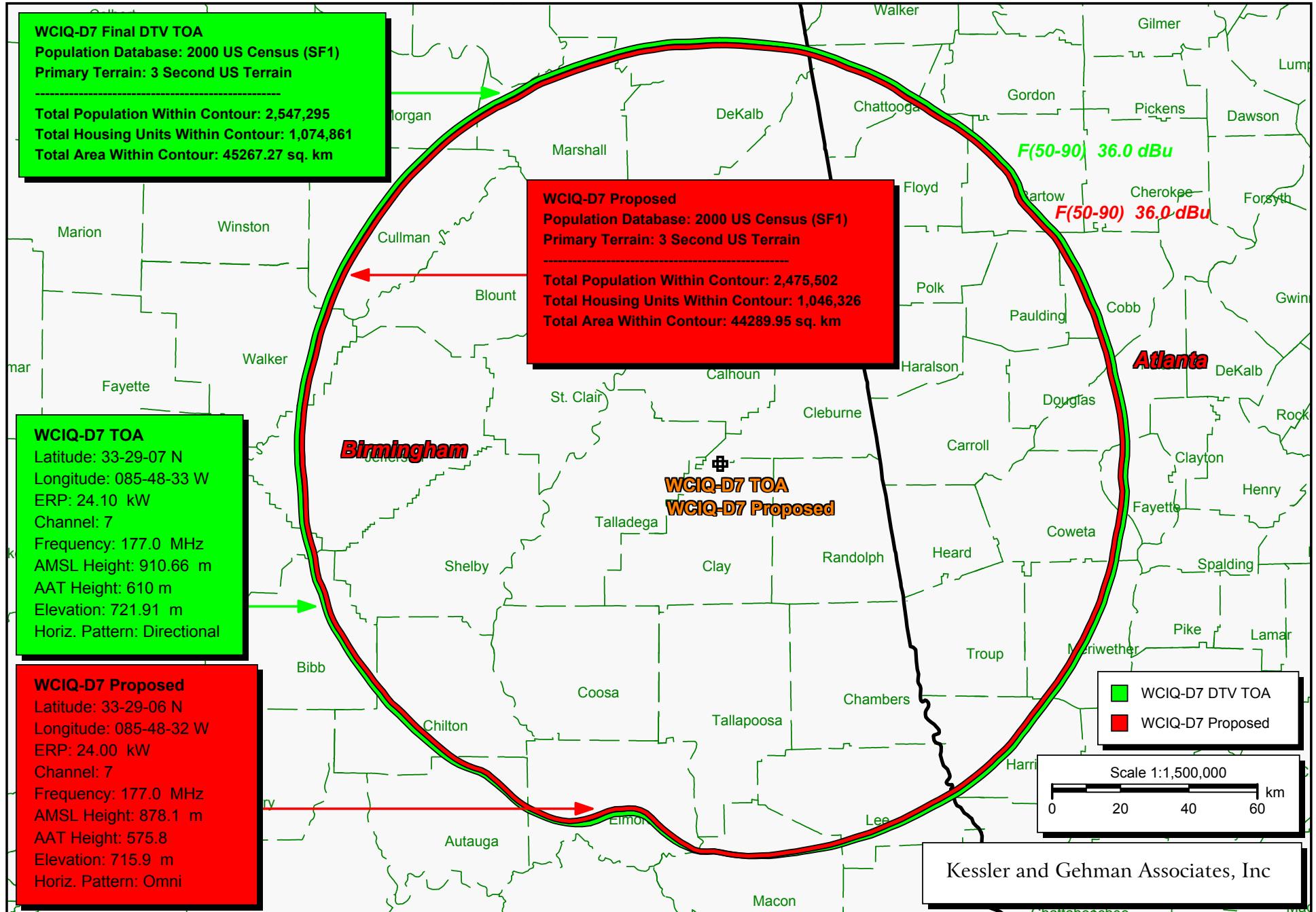
252	122.6	121.4	PASS	1.2
253	122.8	121.6	PASS	1.2
254	123.1	121.9	PASS	1.2
255	123.0	121.9	PASS	1.1
256	122.8	121.7	PASS	1.1
257	122.7	121.4	PASS	1.3
258	122.7	121.4	PASS	1.3
259	122.9	121.6	PASS	1.3
260	123.1	121.8	PASS	1.3
261	123.2	121.9	PASS	1.3
262	123.3	122.0	PASS	1.3
263	123.2	121.9	PASS	1.3
264	123.1	121.7	PASS	1.4
265	123.0	121.6	PASS	1.4
266	122.9	121.5	PASS	1.4
267	122.9	121.4	PASS	1.5
268	123.0	121.5	PASS	1.5
269	123.3	121.7	PASS	1.6
270	123.5	122.0	PASS	1.5
271	123.5	122.0	PASS	1.5
272	123.7	122.2	PASS	1.5
273	123.8	122.3	PASS	1.5
274	123.8	122.4	PASS	1.4
275	123.8	122.4	PASS	1.4
276	123.8	122.4	PASS	1.4
277	123.9	122.5	PASS	1.4
278	124.0	122.5	PASS	1.5
279	123.9	122.5	PASS	1.4
280	123.9	122.5	PASS	1.4
281	124.0	122.5	PASS	1.5
282	123.9	122.5	PASS	1.4
283	123.9	122.4	PASS	1.5
284	123.8	122.3	PASS	1.5
285	123.8	122.2	PASS	1.6
286	123.9	122.3	PASS	1.6
287	124.0	122.5	PASS	1.5
288	124.1	122.6	PASS	1.5
289	124.2	122.7	PASS	1.5
290	124.2	122.6	PASS	1.6
291	124.2	122.6	PASS	1.6
292	124.3	122.8	PASS	1.5
293	124.4	122.9	PASS	1.5
294	124.4	122.9	PASS	1.5
295	124.4	122.9	PASS	1.5
296	124.5	123.0	PASS	1.5
297	124.5	123.0	PASS	1.5
298	124.5	123.0	PASS	1.5
299	124.5	123.0	PASS	1.5
300	124.5	122.9	PASS	1.6
301	124.4	122.9	PASS	1.5
302	124.4	122.9	PASS	1.5

**WCIQ-DT (Final DTV TOA) and WCIQ-DT (Proposed) Distance to Contour Comparison Chart**

303	124.4	122.8	PASS	1.6
304	124.4	122.9	PASS	1.5
305	124.5	122.9	PASS	1.6
306	124.5	122.9	PASS	1.6
307	124.5	123.0	PASS	1.5
308	124.6	123.0	PASS	1.6
309	124.6	123.1	PASS	1.5
310	124.7	123.2	PASS	1.5
311	124.8	123.3	PASS	1.5
312	124.8	123.3	PASS	1.5
313	124.8	123.3	PASS	1.5
314	124.8	123.2	PASS	1.6
315	124.7	123.2	PASS	1.5
316	124.7	123.2	PASS	1.5
317	124.7	123.2	PASS	1.5
318	124.8	123.2	PASS	1.6
319	124.8	123.3	PASS	1.5
320	124.9	123.3	PASS	1.6
321	124.8	123.3	PASS	1.5
322	124.8	123.3	PASS	1.5
323	124.7	123.2	PASS	1.5
324	124.7	123.1	PASS	1.6
325	124.6	123.0	PASS	1.6
326	124.5	122.9	PASS	1.6
327	124.4	122.8	PASS	1.6
328	124.3	122.7	PASS	1.6
329	124.1	122.5	PASS	1.6
330	124.0	122.3	PASS	1.7
331	123.8	122.2	PASS	1.6
332	123.9	122.2	PASS	1.7
333	124.0	122.4	PASS	1.6
334	124.2	122.6	PASS	1.6
335	124.2	122.6	PASS	1.6
336	124.0	122.5	PASS	1.5
337	124.0	122.4	PASS	1.6
338	123.9	122.3	PASS	1.6
339	123.9	122.3	PASS	1.6
340	123.9	122.3	PASS	1.6
341	123.8	122.2	PASS	1.6
342	123.8	122.2	PASS	1.6
343	123.8	122.2	PASS	1.6
344	123.8	122.2	PASS	1.6
345	123.8	122.3	PASS	1.5
346	124.0	122.4	PASS	1.6
347	124.0	122.4	PASS	1.6
348	124.0	122.5	PASS	1.5
349	124.1	122.6	PASS	1.5
350	124.1	122.5	PASS	1.6
351	124.0	122.5	PASS	1.5
352	124.0	122.5	PASS	1.5
353	124.1	122.5	PASS	1.6

**WCIQ-DT (Final DTV TOA) and WCIQ-DT (Proposed) Distance to Contour Comparison Chart**

<b>354</b>	<b>124.0</b>	<b>122.4</b>	<b>PASS</b>	<b>1.6</b>
<b>355</b>	<b>123.8</b>	<b>122.2</b>	<b>PASS</b>	<b>1.6</b>
<b>356</b>	<b>123.7</b>	<b>122.1</b>	<b>PASS</b>	<b>1.6</b>
<b>357</b>	<b>123.6</b>	<b>122.1</b>	<b>PASS</b>	<b>1.5</b>
<b>358</b>	<b>123.7</b>	<b>122.2</b>	<b>PASS</b>	<b>1.5</b>
<b>359</b>	<b>123.7</b>	<b>122.3</b>	<b>PASS</b>	<b>1.4</b>



WCIQ-D7 Final DTV TOA Population and WCIQ-D7 Proposed Population

EXHIBIT 12

