



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION FOR  
MODIFICATION OF CONSTRUCTION PERMIT  
BPCDT-20080317AGG  
WTWC-TV - TALLAHASSEE, FLORIDA  
DTV - CH. 40 - 462 kW - 600.0 m HAAT**

Prepared for: WTWC Licensee, LLC

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Professional Engineer in the Commonwealth of Virginia, License No. 7418, and in the State of New York, License No. 63418.

**GENERAL**

This office has been authorized by WTWC Licensee, LLC, licensee and permittee of WTWC-TV, channel 40, allotted to Tallahassee, Florida, to prepare this statement, FCC Form 301, Sections III and III-D, and the associated exhibits, in support of its request for modification of its post-transition construction permit, BPCDT-20080317AGG. WTWC-TV currently operates according to Special Temporary Authorization, BLDSTA-20090522ABQ, which permits WTWC-TV to broadcast its post-transition digital signal on channel 40, using its former analog antenna, at a reduced Effective Radiated Power (ERP) of 420 kW. The applicant herein proposes to make permanent the use of its former analog antenna. The proposed facility, 462 kW ERP at 600 meters HAAT, differs from the currently authorized facility in three respects. It will utilize the existing omni-directional antenna instead of the authorized new directional antenna, it will reduce the ERP from 1000 kW to 462 kW to avoid causing prohibited post-transition interference to other stations, and it is predicted

to serve 939,792 persons within its predicted 41 dBu contour, which is 154,859 more persons than the 784,933 persons that its current authorization is predicted to serve. No other technical changes are proposed herein.

There are, however, some administrative changes that are required. The owner of the tower support structure, American Towers, Inc. has obtained a new FAA study and a new determination that was issued on August 7, 2009. The owner re-registered the tower and obtained a new registration number, 1227719. The new registration's technical details differ from the details in the former registration number, 1054890, therefore the updated technical information is herein provided in the "tech box" in form 301. The proposed digital facility fully encompasses **100.0% of the area** (29,293 sq km) and will serve **100.0% of the population** (744,628 persons) that is located within the formerly authorized analog 64 dBu F(50,50) predicted service area of WTWC-TV on channel 40.

### **PROPOSED OMNI-DIRECTIONAL ANTENNA**

The applicant proposes to utilize its existing analog antenna, a Dielectric model TFU-30GTH-O6 horizontally polarized omni-directional transmitting antenna with its center of radiation located at a height above ground of 601 meters, and a height above average terrain of 600 meters. The antenna manufacturer's vertical plane radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane, due to electrical beam tilt, is shown in Exhibits 2A and 2B, and is tabulated in Exhibit 3.

### **PREDICTED COVERAGE CONTOURS**

The predicted coverage contours were calculated in accordance with the method described in Section 73.684 of the Rules, utilizing the appropriate F(50,90) propagation

curves (47 CFR Section 73.699, Figure 9), proposed Effective Radiated Power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the National Geophysical Data Center Thirty Second Point Database (TPG-0050) as prescribed in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. Exhibit 1 shows the predicted Noise Limited (41 dBu) contour, and the principal community (48 dBu) contour. The 48 dBu contour wholly encompasses the principal community of license, Tallahassee, Florida.

## **ALLOCATION CONSIDERATIONS**

### **DTV Allocation Considerations**

A study was performed, using the Commission's application processing software tv\_process, **with a 0.5 km cell size**, to determine if the instant application for modification of construction permit for WTWC-TV is predicted to cause any level of new prohibited interference to any domestic DTV stations, expansion construction permits, pending applications or DTV allotments. Results of the study indicate that the instant application is predicted to cause no impermissible level of new interference to the populations to be served by any domestic DTV station, expansion construction permit, pending DTV application or DTV allotment.

### **Class A Television Allocation Considerations**

As required in Section 73.616(f) of the FCC's Rules, a study was performed using the FCC's application processing software, also **using a 0.5 km cell size**. The study revealed that WTWC-TV's proposed site is located 36.4 km from the site of Class A LPTV

station WBXT-CA, channel 43, Tallahassee, Florida, BLTTA-20040628AAI, and shows a slight predicted contour overlap of WTWC-TV's 104 dBu F(50,10) contour with WBXT-CA's protected 74 dBu F(50,50) predicted contour. However, the Longley-Rice section of the study results determined that regarding WBXT-CA, the "Proposal causes no interference". The instant application is therefore considered to be in compliance with Section 73.616(f). No Class A station will be detrimentally affected by WTWC-TV's operation on channel 40, as proposed herein.

#### **LARGEST STATION IN THE MARKET**

The processing study stated that "Facility does not meet maximum height/power limits - Channel 40 ERP = 462.00 HAAT = 600." Pursuant to Section 73.622(f)(5), the station with the largest geographic coverage in the Tallahassee, Florida - Thomasville, Georgia Designated Market Area (DMA) appears to be WCTV, channel 46, Thomasville, Georgia. That facility is listed in the table of allotments with an ERP of 1000 kW at 619 meters HAAT, with a predicted digital geographic coverage area of 45,196 sq km. WTWC-TV's proposed facility is predicted to cover 39,987 sq km, which is a smaller area than WCTV's area, and therefore complies with Section 73.622(f)(5).

#### **BLANKETING AND INTERMODULATION INTERFERENCE**

A number of broadcast and non-broadcast facilities are co-located with, as well as located within a distance of 10 kilometers of the WTWC-TV antenna site. Even though the application processing software study predicts no problematic interaction with other facilities, or to FCC monitoring stations, the applicant recognizes its responsibility to

remedy complaints of interference that might result from this proposal in accordance with applicable Rules.

### **RADIO FREQUENCY IMPACT**

Effective October 15, 1997 the FCC adopted new guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The guidelines are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines define a maximum permissible exposure (MPE) level for occupational or "controlled" situations that apply in cases that affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance to determine whether FCC-regulated transmitting facilities, operations or devices comply with guidelines for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC's policies and guidelines.

The Maximum Permitted Exposure (MPE) level for broadcast facilities that operate on a frequency between 30 MHz and 300 MHz is 0.2 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) for an "uncontrolled" environment, and is 1.0 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) for a "controlled" environment. The MPE level for broadcast facilities that operate on a frequency between 300 MHz and 1500 MHz, primarily UHF TV stations, is

determined for an "uncontrolled" environment by dividing the operating frequency in MHz by 1500, and is similarly determined for a "controlled" environment by dividing the operating frequency in MHz by 300.

The predicted emissions of WTWC-TV while operating on channel 40 must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WTWC-TV, which will operate on television Channel 40 (626-632 MHz), the MPE is 0.419 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) in an "uncontrolled" environment and  $2.100 \text{ mW}/\text{cm}^2$  in a "controlled" environment. The proposed WTWC-TV facility will operate with a maximum ERP of 462 kW from a horizontally polarized omnidirectional transmitting antenna with a centerline height of 601 meters above ground level (AGL). Considering a very conservative vertical plane relative field factor of 0.3, the WTWC-TV facility is predicted to produce a power density at two meters above ground level of  $0.00387 \text{ mW}/\text{cm}^2$ , which is 0.92% of the FCC guideline value for an "uncontrolled" environment, and 0.184% of the FCC's guideline value for "controlled" environments (see Appendix A). There is one other DTV station and eight applications for new digital LPTV stations located within the relevant proximity of 315 meters. The total percentage of the ANSI value at the proposed site, including the cumulative radiation from all post-transition stations within relevant proximity is 2.33% of the limit for "uncontrolled" environments, and 0.466% of the limit for "controlled" environments.

### **OCCUPATIONAL SAFETY**

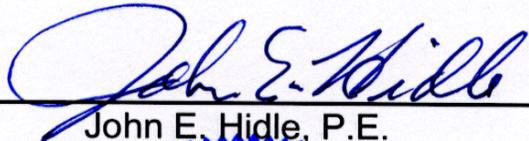
The licensee of WTWC-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WTWC-TV antenna, and is

committed to reducing power or ceasing operation during times of maintenance of the RF transmission systems, when necessary, to ensure protection to personnel.

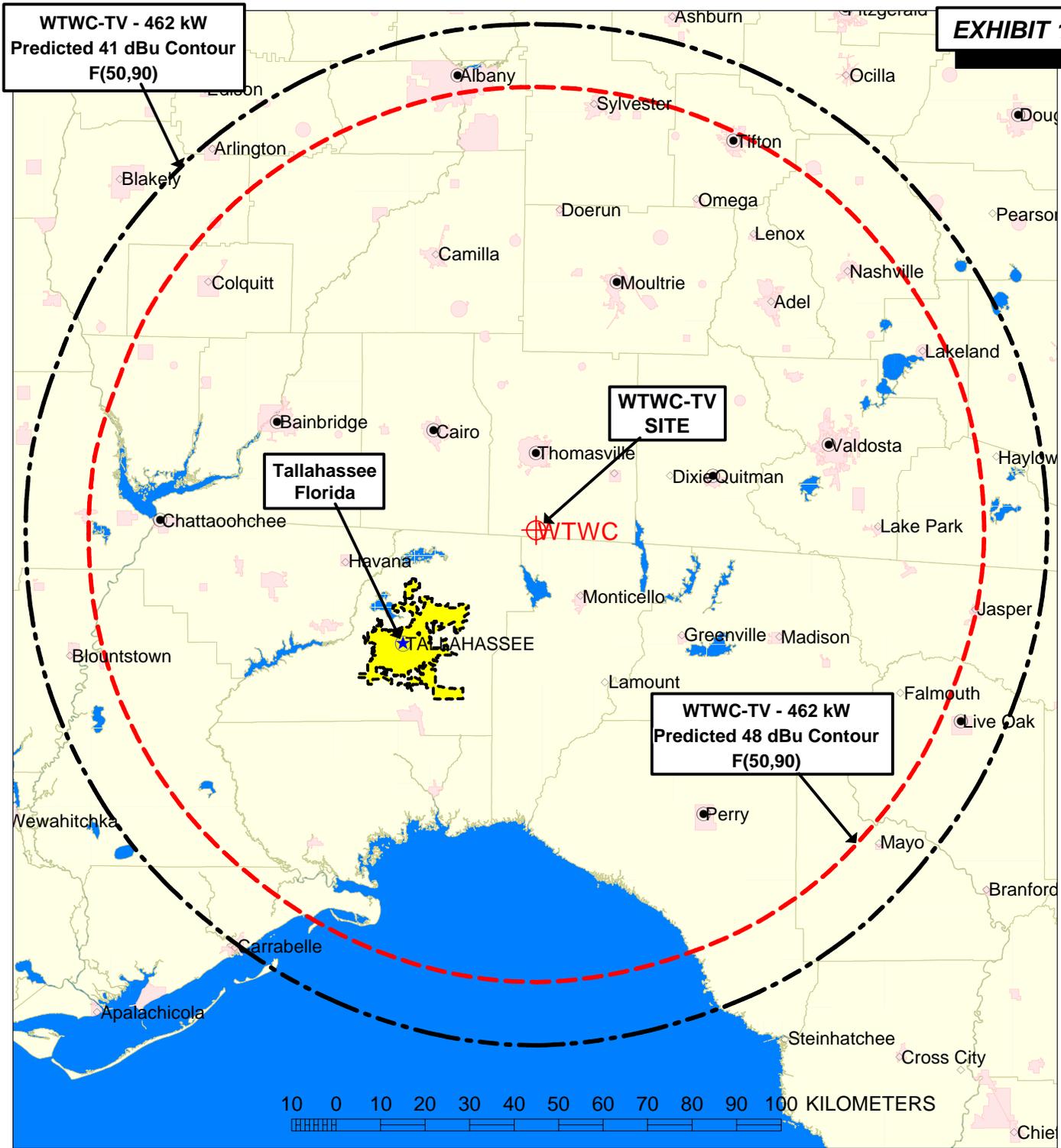
**SUMMARY**

It is submitted that the instant application for modification of construction permit to authorize WTWC-TV to re-purpose its existing former analog omni-directional antenna on channel 40 and adjust its ERP to 462 kW, as described herein, complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement, FCC Form 301, Sections III and III-D, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: January 27, 2010

  
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John E. Hidle, P.E.





**PREDICTED COVERAGE CONTOURS**  
**WTWC-TV - TALLAHASSEE, FLORIDA**  
**Channel 40 - 462 kW ERP - 600 meters HAAT**

**Predicted F(50,90) - 48 dBu**  
**Principal Community Contour**  
**Population = 785,682 persons**  
**Area = 30,625 square kilometers**

**Predicted F(50,90) - 41 dBu**  
**Noise Limited Contour**  
**Population = 939,792 persons**  
**Area = 39,987 square kilometers**

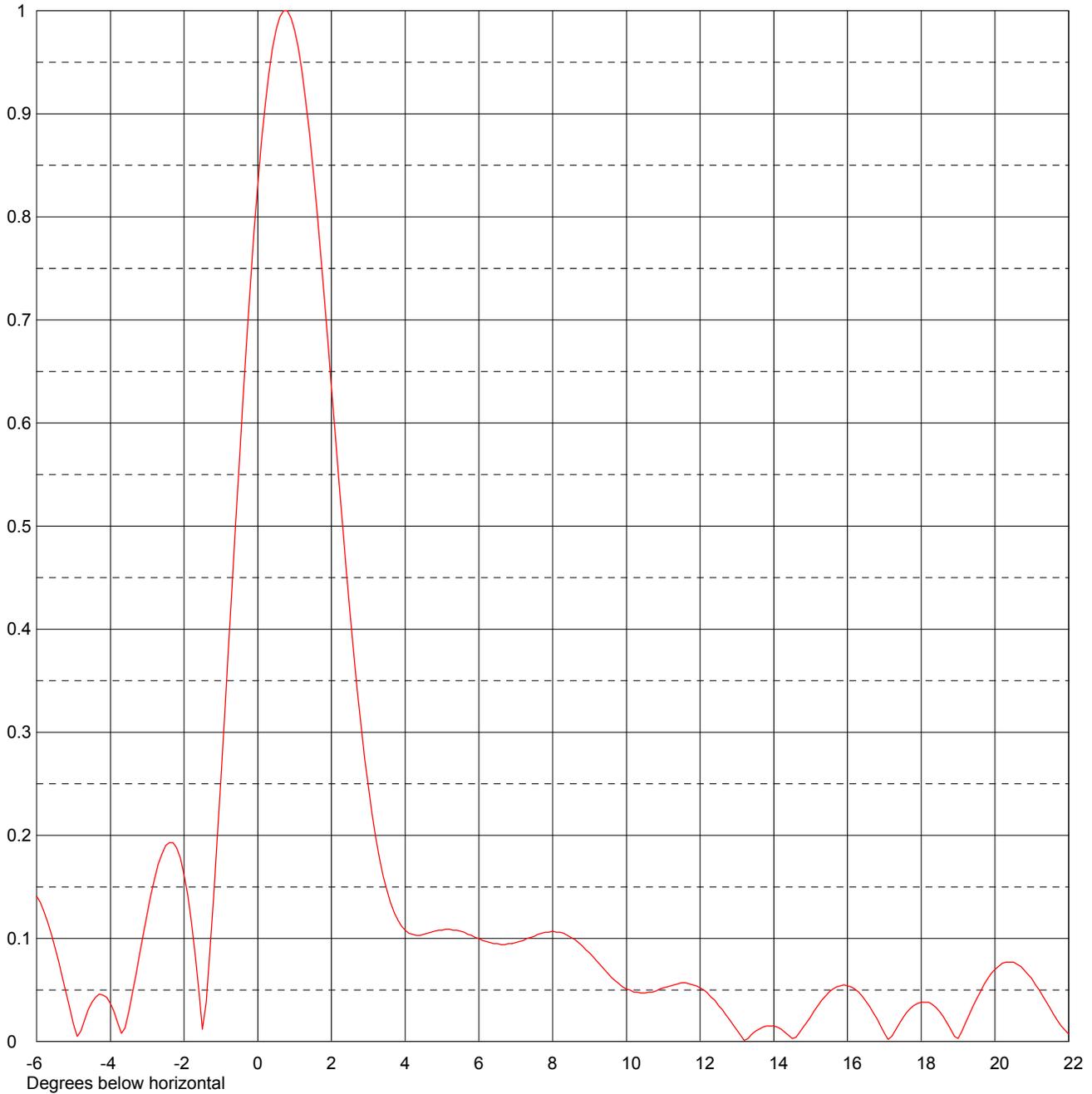


Exhibit No.  
**Two-A**

Date **28 Jul 2000**  
Call Letters **WTWC-TV** Channel **40**  
Location **Tallahassee, FL**  
Customer **WTWC Licensee, LLC**  
Antenna Type **TFU-30GTH O6**

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>27.0 (14.31 dB)</b>	Beam Tilt	<b>0.75 Degrees</b>
RMS Gain at Horizontal	<b>18.7 (12.72 dB)</b>	Frequency	<b>629.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>30G270075</b>



Remarks:

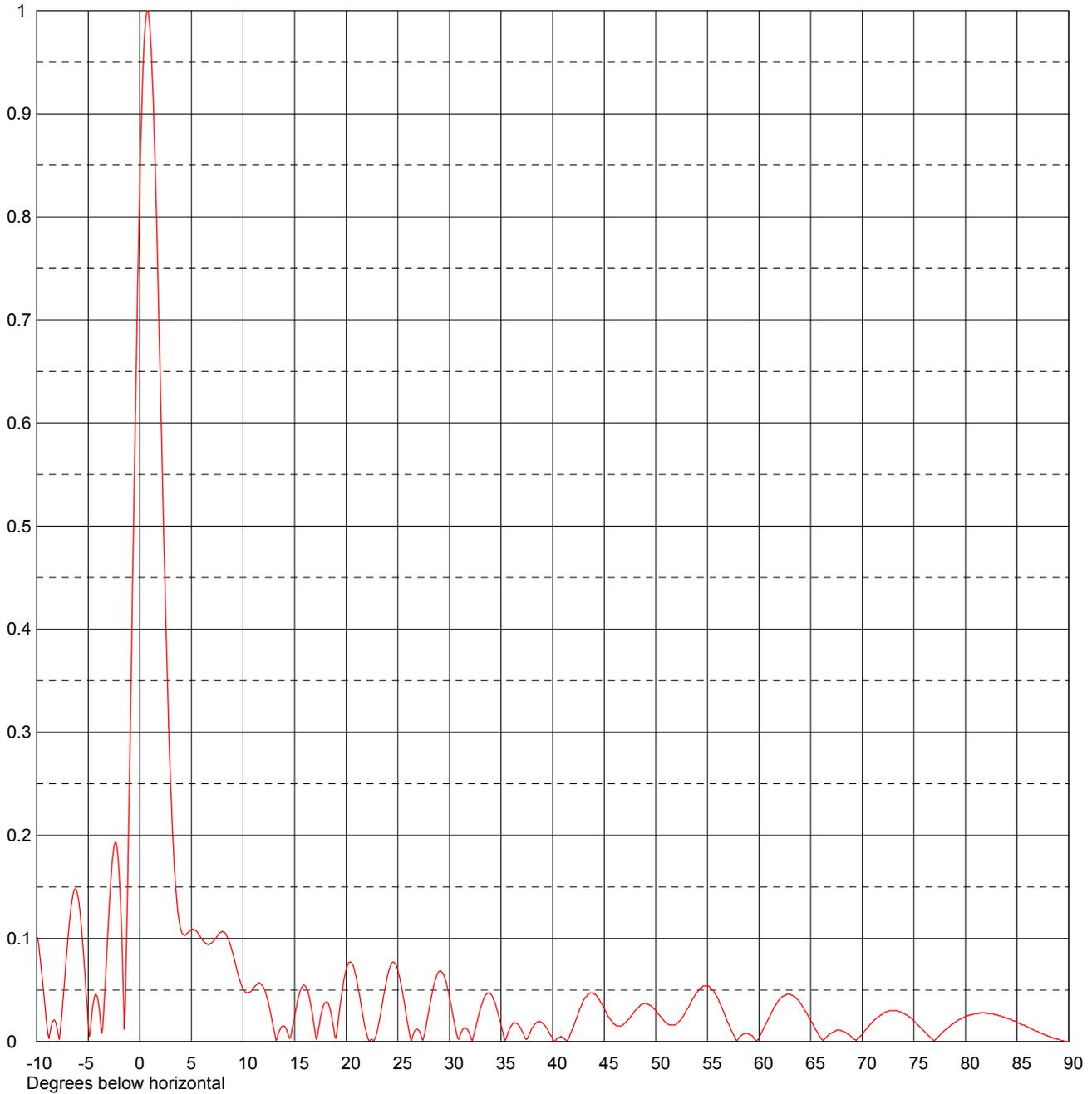


Exhibit No.  
**Two-B**

Date **28 Jul 2000**  
Call Letters **WTWC-TV** Channel **40**  
Location **Tallahassee, FL**  
Customer **WTWC Licensee, LLC**  
Antenna Type **TFU-30GTH O6**

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>27.0 (14.31 dB)</b>	Beam Tilt	<b>0.75 Degrees</b>
RMS Gain at Horizontal	<b>18.7 (12.72 dB)</b>	Frequency	<b>629.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>30G270075-90</b>



Remarks:



Exhibit No. <b>Three</b>
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Date	<b>28 Jul 2000</b>
Call Letters	<b>WTWC-TV</b> Channel <b>40</b>
Location	<b>Tallahassee, FL</b>
Customer	<b>WTWC Licensee, LLC</b>
Antenna Type	<b>TFU-30GTH O6</b>

**TABULATION OF ELEVATION PATTERN**

Elevation Pattern Drawing # **30G270075**

Angle	Field										
-10.0	0.108	2.4	0.458	10.6	0.048	30.5	0.017	51.0	0.018	71.5	0.023
-9.5	0.066	2.6	0.378	10.8	0.049	31.0	0.005	51.5	0.016	72.0	0.027
-9.0	0.015	2.8	0.307	11.0	0.052	31.5	0.013	52.0	0.017	72.5	0.029
-8.5	0.018	3.0	0.247	11.5	0.057	32.0	0.006	52.5	0.022	73.0	0.030
-8.0	0.012	3.2	0.198	12.0	0.052	32.5	0.012	53.0	0.031	73.5	0.029
-7.5	0.033	3.4	0.161	12.5	0.035	33.0	0.032	53.5	0.040	74.0	0.027
-7.0	0.096	3.6	0.135	13.0	0.011	33.5	0.045	54.0	0.048	74.5	0.024
-6.5	0.141	3.8	0.118	13.5	0.010	34.0	0.046	54.5	0.053	75.0	0.020
-6.0	0.141	4.0	0.108	14.0	0.015	34.5	0.035	55.0	0.054	75.5	0.015
-5.5	0.091	4.2	0.104	14.5	0.003	35.0	0.016	55.5	0.050	76.0	0.010
-5.0	0.017	4.4	0.103	15.0	0.024	35.5	0.003	56.0	0.042	76.5	0.005
-4.5	0.038	4.6	0.105	15.5	0.048	36.0	0.015	56.5	0.030	77.0	0.001
-4.0	0.037	4.8	0.107	16.0	0.054	36.5	0.018	57.0	0.018	77.5	0.006
-3.5	0.029	5.0	0.108	16.5	0.039	37.0	0.011	57.5	0.007	78.0	0.011
-3.0	0.124	5.2	0.109	17.0	0.008	37.5	0.002	58.0	0.003	78.5	0.015
-2.8	0.158	5.4	0.108	17.5	0.023	38.0	0.013	58.5	0.007	79.0	0.019
-2.6	0.182	5.6	0.106	18.0	0.038	38.5	0.019	59.0	0.007	79.5	0.022
-2.4	0.193	5.8	0.103	18.5	0.029	39.0	0.018	59.5	0.003	80.0	0.024
-2.2	0.188	6.0	0.100	19.0	0.003	39.5	0.012	60.0	0.004	80.5	0.026
-2.0	0.162	6.2	0.097	19.5	0.041	40.0	0.003	60.5	0.014	81.0	0.027
-1.8	0.116	6.4	0.095	20.0	0.070	40.5	0.003	61.0	0.024	81.5	0.028
-1.6	0.050	6.6	0.094	20.5	0.077	41.0	0.004	61.5	0.034	82.0	0.027
-1.4	0.038	6.8	0.095	21.0	0.061	41.5	0.002	62.0	0.041	82.5	0.027
-1.2	0.140	7.0	0.096	21.5	0.032	42.0	0.014	62.5	0.045	83.0	0.026
-1.0	0.255	7.2	0.098	22.0	0.007	42.5	0.028	63.0	0.046	83.5	0.024
-0.8	0.378	7.4	0.101	22.5	0.002	43.0	0.040	63.5	0.043	84.0	0.023
-0.6	0.503	7.6	0.104	23.0	0.010	43.5	0.046	64.0	0.037	84.5	0.021
-0.4	0.624	7.8	0.106	23.5	0.037	44.0	0.046	64.5	0.029	85.0	0.019
-0.2	0.735	8.0	0.107	24.0	0.064	44.5	0.041	65.0	0.020	85.5	0.016
0.0	0.832	8.2	0.106	24.5	0.077	45.0	0.032	65.5	0.011	86.0	0.014
0.2	0.909	8.4	0.103	25.0	0.069	45.5	0.023	66.0	0.003	86.5	0.012
0.4	0.964	8.6	0.099	25.5	0.045	46.0	0.017	66.5	0.004	87.0	0.010
0.6	0.994	8.8	0.093	26.0	0.015	46.5	0.015	67.0	0.008	87.5	0.007
0.8	1.000	9.0	0.086	26.5	0.007	47.0	0.018	67.5	0.011	88.0	0.005
1.0	0.981	9.2	0.078	27.0	0.011	47.5	0.023	68.0	0.010	88.5	0.003
1.2	0.941	9.4	0.070	27.5	0.004	48.0	0.030	68.5	0.008	89.0	0.002
1.4	0.882	9.6	0.062	28.0	0.030	48.5	0.035	69.0	0.004	89.5	0.001
1.6	0.808	9.8	0.056	28.5	0.055	49.0	0.037	69.5	0.002	90.0	0.000
1.8	0.724	10.0	0.051	29.0	0.068	49.5	0.035	70.0	0.007		
2.0	0.635	10.2	0.048	29.5	0.063	50.0	0.030	70.5	0.013		
2.2	0.545	10.4	0.047	30.0	0.043	50.5	0.024	71.0	0.019		

Remarks:

**SUMMARY OF RADIOFREQUENCY  
RADIATION STUDY**  
WTWC-TV - TALLAHASSEE, FLORIDA  
CHANNEL 40, 462 kW ERP, 600 m HAAT  
JANUARY, 2010

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm<sup>2</sup>)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm<sup>2</sup>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WTWC-TV	DT	40	629	H	599	462.000	0.300	0.00387	0.419	0.92%
WTLH	DT	50	689	H	596	665.000	0.300	0.00563	0.459	1.23%
NEW	DT	14	473	H	596	15.000	0.300	0.00013	0.315	0.04%
NEW	DT	16	485	H	596	15.000	0.300	0.00013	0.323	0.04%
NEW	DT	17	491	H	596	15.000	0.300	0.00013	0.327	0.04%
NEW	DT	19	503	H	596	15.000	0.300	0.00013	0.335	0.04%
NEW	DT	14	473	H	448	5.000	0.300	0.00007	0.315	0.02%
NEW	DT	34	593	H	448	5.000	0.300	0.00007	0.395	0.02%
NEW	DT	36	605	H	448	5.000	0.300	0.00007	0.403	0.02%
NEW	DT	42	641	H	448	5.000	0.300	0.00007	0.427	0.02%

**TOTAL PERCENTAGE OF ANSI VALUE= 2.33%**

*\*\* The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.*

*This evaluation includes facilities collocated at the site, and facilities located within 315 meters.*