

Engineering Statement
REQUEST FOR SPECIAL TEMPORARY AUTHORIZATION
prepared for
Gannett River States Publishing Corporation
WJXX-DT Orange Park, Florida
Facility ID 11893
Ch. 10 11.1 kW (MAX-DA) 290.7 m

Gannett River States Publishing Corporation (“*Gannett*”) is the licensee of analog station WJXX(TV), Channel 25, Orange Park, Florida (see BLCT-19971016KF), and the companion pre and post-transition digital station, WJXX-DT, Channel 10 (see BLCDT-20041102AEE). As the Commission is aware, WJXX-DT has experienced antenna problems that have been documented in the Special Temporary Authorization, BDSTA-20070521ADP¹. The antenna problems require that the WJXX-DT antenna be replaced. Accordingly, *Gannett* filed an application seeking permission to employ a different replacement antenna (see BPCDT-20081205AGH). Since the application was filed, structural studies were performed on the proposed WJXX replacement antenna and supporting pole. These studies found that the originally specified supporting pole’s weight created an unsound structural condition. It became necessary to specify a shorter supporting pole. *Gannett* has filed under separate cover an amendment to the pending application for WJXX-DT for post-transition operation at a higher power level.

WJXX-DT is authorized to operate with a common antenna also employed by co-owned WTLV-DT, Channel 13, Facility ID 65046, Jacksonville, Florida (see BLCDT-20040421AAH). The common WTLV-DT/WJXX-DT antenna is supported by the existing WTLV(TV) analog antenna which is incapable of supporting the replacement antenna. The existing WTLV(TV) antenna must be removed in order to accommodate the replacement antenna. Based on information provided by a technical representative of *Gannett*, the replacement antenna is now scheduled for delivery on February 16, 2009. Installation of the replacement antenna is expected to commence within a few days of antenna delivery. Therefore, ***expedited processing of the instant request is hereby respectfully requested on behalf of the applicant.***

With the removal of the WTLV(TV) main analog antenna, *Gannett* plans to operate WJXX-DT at the license power level using the replacement antenna with a custom modification

¹ As extended by BEDSTA-20080212AAG.

Engineering Statement
REQUEST FOR SPECIAL TEMPORARY AUTHORIZATION

(Page 2 of 5)

to the existing transmitter combiner. Thus, the instant request for Special Temporary Authorization specifies operation of WJXX-DT with a reduced antenna height. *Gannett* intends to operate the WJXX-DT STA facility until the revised analog shutdown date of June 12, 2009.

The proposed WJXX-DT antenna is a Dielectric THB-C3SP-3H/6HD1H-1-T that is directional in the horizontal plane with 0.6° of electrical beam tilt. A relative field pattern is provided in **Figure 1**. A depiction of the antenna vertical plane (elevation) relative field pattern is provided in **Figure 2**. The pertinent coverage contours are provided in **Figure 3**. As shown therein, the service contour from the proposed STA operation will not extend past the licensed service contour. Additional technical details about the operation along with a tabulation of the antenna horizontal plane relative field data is provided in **Table I**.

The proposed WJXX-DT site is located more than 400 km from the nearest points on the Canadian and Mexican borders and does not require international coordination. The nearest FCC monitoring station is at Vero Beach, FL, at a distance of 308.9 km from the proposed site. This far exceeds the distance that would require consideration of the monitoring station. The proposed site is also located outside the area specified in §73.1030(a)(1). Thus, notification of the instant proposal to the National Radio Astronomy Observatory at Green Bank, West Virginia, is not required. There are no AM broadcast stations located within 3.2 km from the proposed site according to the Commission's engineering database.

The proposed operation was evaluated for human exposure to radiofrequency energy using the procedures outlined in the Commission's OET Bulletin No. 65 ("OET 65"). OET 65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines adopted in §1.1310 of the Commission's Rules. Under the present Commission policy, a facility may be presumed to comply with the limits specified in §1.1310 if it satisfies the exposure criteria set forth in OET 65. Based on that methodology, and as demonstrated in the following, the proposed STA operation will comply with the cited adopted guidelines.

OET-65's formula for television transmitting antennas is based on the NTSC transmission standards, where the average power is normally much less than the peak power.

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Engineering Statement
REQUEST FOR SPECIAL TEMPORARY AUTHORIZATION

(Page 3 of 5)

For the DTV facility in the instant proposal, the peak-to-average ratio is different than the NTSC ratio. The DTV ERP figure herein refers to the *average* power level. The formula used for calculating DTV signal density in this analysis is essentially the same as equation (9) in OET-65.

$$S = (33.4098) (F^2) (ERP) / D^2$$

Where:

<i>S</i>	=	power density in microwatts/cm ²
<i>ERP</i>	=	total (average) ERP in Watts
<i>F</i>	=	relative field factor
<i>D</i>	=	distance in meters

The proposed WJXX-DT STA antenna will be mounted such that its center of radiation is 281.3 meters above ground level. A maximum vertical plane maximum relative field of 21.5 percent is employed for this calculation. The “uncontrolled/general population” limit specified in §1.1310 for Channel 10 (center frequency 195 MHz) is 200 μW/cm².

Using this formula, the above inputs, and employing the antenna’s elevation relative field pattern, the proposed facility would contribute a “worst-case” maximum power density of 0.22 μW/cm² at two meters above ground, or 0.11 percent of the general population/uncontrolled limit. At ground level locations away from the base of the tower, the calculated RF power density is lower, due to the increasing distance from the transmitting antenna.

§1.1307(b)(3) states that facilities at locations with multiple transmitters (such as the case at hand) are categorically excluded from responsibility for taking any corrective action in the areas where their contribution is less than five percent. Since the instant situation meets the five percent exclusion test at all ground level areas, the impact of the any other facilities using this site may be considered independently from this proposal. Accordingly, it is believed that the impact of the proposed operation should not be considered to be a factor at or near ground level as defined under §1.1307(b).

As demonstrated herein, excessive levels of RF energy attributable to the proposal will not be caused at publicly accessible areas at ground level near the antenna supporting structure. Consequently, members of the general public will not be exposed to RF levels in excess of the

Engineering Statement
REQUEST FOR SPECIAL TEMPORARY AUTHORIZATION
(Page 4 of 5)

Commission's guidelines. Nevertheless, tower site access will continue to be restricted and controlled through the use of a locked fence. Additionally, appropriate RF exposure warning signs will continue to be posted.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level. A site exposure policy will continue to be employed protecting maintenance workers from excessive exposure when work must be performed on the tower in areas where high RF levels may be present. Such protective measures may include, but will not be limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines will be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with all pertinent stations.

Based on the preceding, it is believed that the instant proposal may be categorically excluded from environmental processing under Section 1.1306 of the Rules, hence preparation of an Environmental Assessment is not required.

Conclusion

As demonstrated above, the temporary WJXX(TV) STA operation proposed herein, will continue to provide service. The replacement of the antenna will permit WJXX-DT to significantly improve its coverage over the current low power STA operation. Based on information provided by a technical representative of *Gannett*, the replacement antenna is scheduled to commence installation on February 16, 2009. Therefore, *expedited processing of the instant STA request is hereby respectfully requested on behalf of the applicant.*

Certification

The undersigned hereby certifies that the foregoing statement and exhibits were prepared by him or under his direction, and that it is true and correct to the best of his knowledge and belief. Mr. Mertz is a principal in the firm of *Cavell, Mertz & Associates, Inc.*, holds a Bachelor of Science degree from Oglethorpe University, and has submitted numerous engineering exhibits

Engineering Statement
REQUEST FOR SPECIAL TEMPORARY AUTHORIZATION

(Page 5 of 5)

to the Federal Communications Commission. His qualifications are a matter of record with that agency.



Richard H. Mertz
February 16, 2009

Cavell, Mertz & Associates, Inc.
7839 Ashton Avenue
Manassas, Virginia 20109
703-392-9090

Attachments

Figure 1	Antenna Horizontal Plane Relative Field Pattern
Figure 2	Antenna Vertical Plane (Elevation) Relative Field Pattern
Figure 3	Coverage Contour Comparison
Table 1	Proposed Operating Parameters

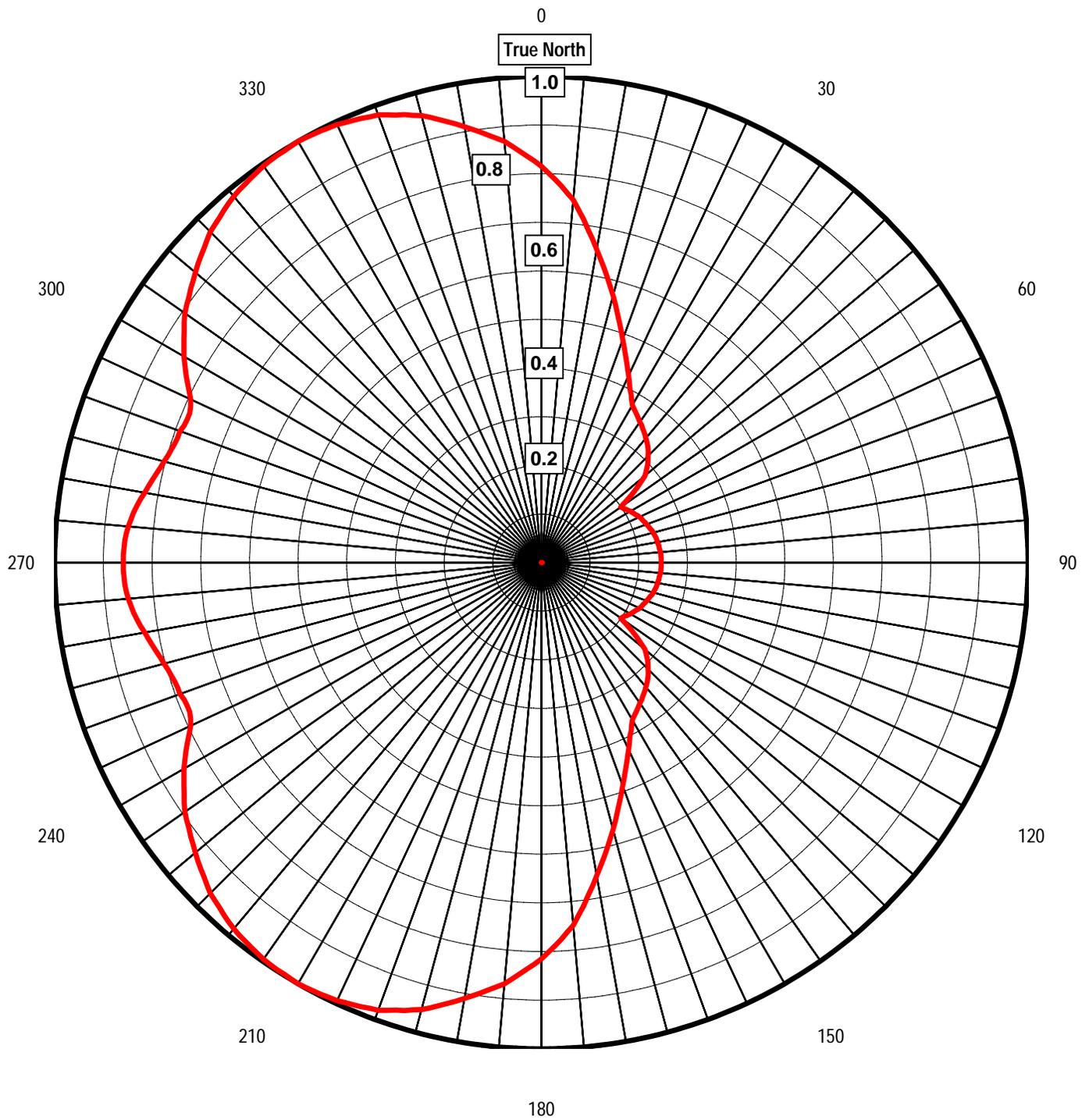


Figure 1
ANTENNA HORIZONTAL PLANE
RELATIVE FIELD RADIATION PATTERN

prepared February 2009 for

Gannett River States Publishing Corporation

WJXX-DT Orange Park, Florida

Facility ID 11893

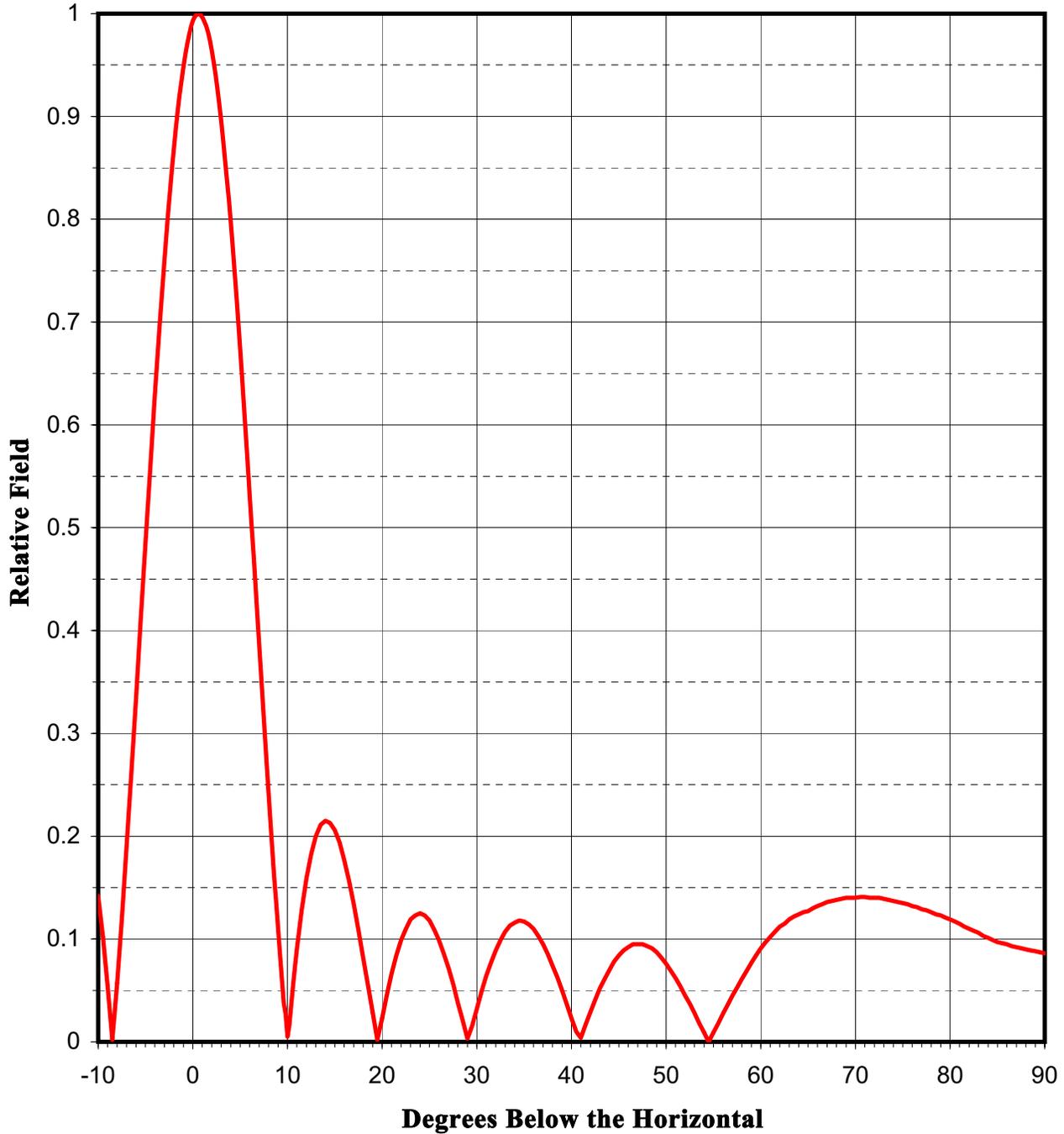
Ch 10 11.1 kW (MAX-DA) 290.7 m

Cavell, Mertz & Associates, Inc.
 Manassas, Virginia

FIGURE 2
ANTENNA VERTICAL PLANE
(ELEVATION) RELATIVE FIELD PATTERN

prepared February 2009 for
Gannett River States Publishing Corporation
WJXX-DT Orange Park, Florida
Facility ID 11893
Ch. 10 11.1 kW (MAX-DA) 290.7 m

Cavell, Mertz & Associates, Inc.
Manassas, Virginia



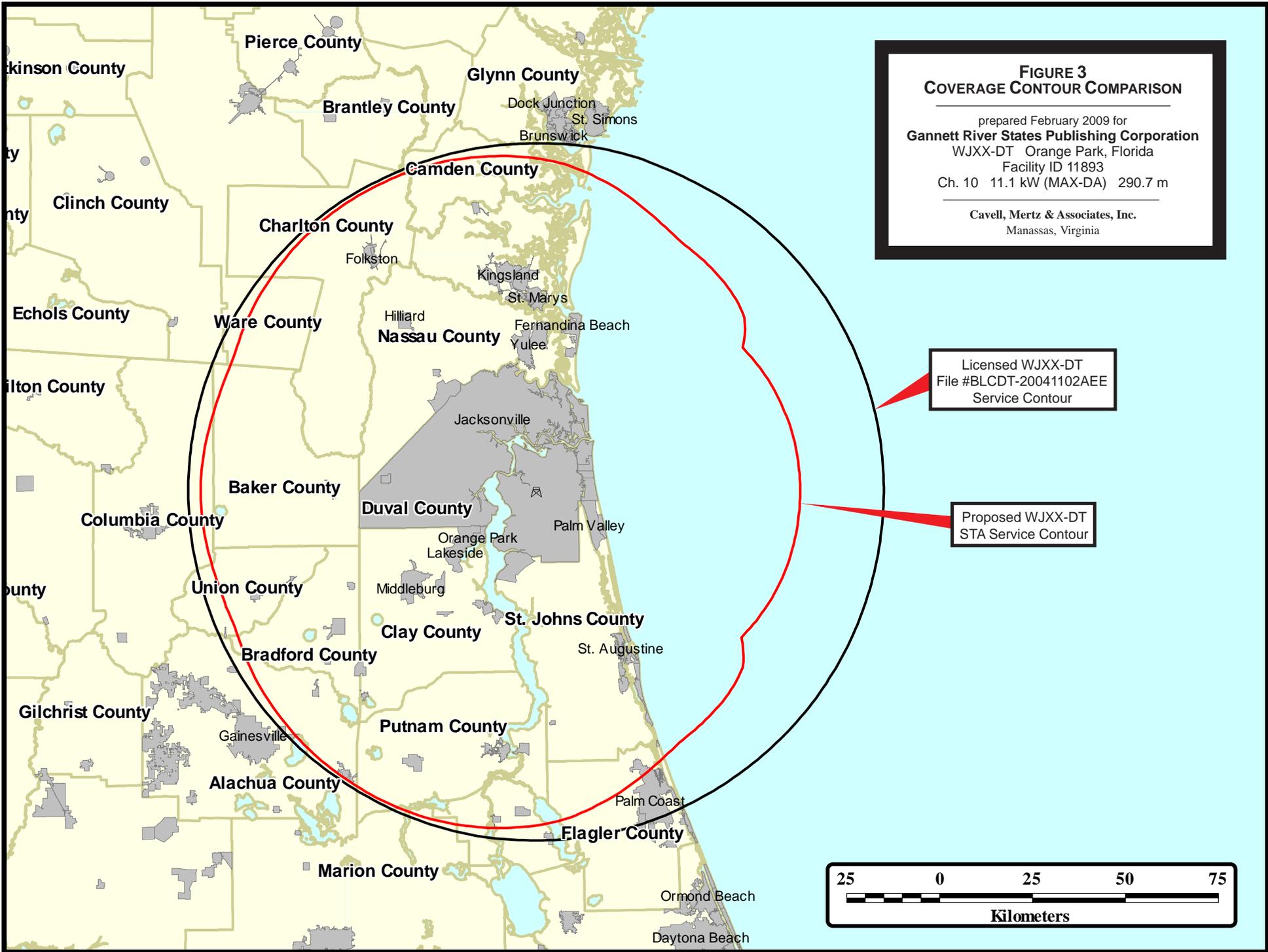


FIGURE 3
COVERAGE CONTOUR COMPARISON

prepared February 2009 for
Gannett River States Publishing Corporation
 WJXX-DT Orange Park, Florida
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 Ch. 10 11.1 kW (MAX-DA) 290.7 m

Cavell, Mertz & Associates, Inc.
 Manassas, Virginia

Licensed WJXX-DT
 File #BLC DT-20041102AEE
 Service Contour

Proposed WJXX-DT
 STA Service Contour



Table I
PROPOSED OPERATING PARAMETERS
 prepared for
Gannett River States Publishing Corporation
 WJXX-DT Orange Park, Florida
 Facility ID 11893
 Ch. 10 (digital) 11.1 kW (MAX-DA) 290.7 m

Site Coordinates	30° 16' 24" N 81° 33' 13" W (NAD-27)
Antenna Structure Registration Number	1017604
Radiation Center	296.5 meters above mean sea level 290.7 meters above average terrain 281.3 meters above ground level
Effective Radiated Power	11.1 kilowatts
Antenna	Dielectric THB-C3SP-3H/6HD1H-1-T with 0.6° electrical beam tilt.

Directional Antenna Relative Field Pattern
 (considering pattern rotation)

Azimuth (°T)	Relative Field	Azimuth (°T)	Relative Field
0	0.815	180	0.815
10	0.654	190	0.910
20	0.489	200	0.980
30	0.374	210	1.000
40	0.334	220	0.983
45	0.310	230	0.928
50	0.278	240	0.848
60	0.211	250	0.790
70	0.230	260	0.828
80	0.242	265	0.852
90	0.246	270	0.859
100	0.242	275	0.852
110	0.230	280	0.828
120	0.211	290	0.790
130	0.278	300	0.848
135	0.310	310	0.928
140	0.334	320	0.983
150	0.374	330	1.000
160	0.489	340	0.980
170	0.654	350	0.910

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

7.1. Channel:
10

7.2. Zone: I II III

7.3. Antenna Location Coordinates: (NAD 27)
Latitude:
Degrees 30 Minutes 16 Seconds 24 North South
Longitude:
Degrees 81 Minutes 33 Seconds 13 West East

7.4. Antenna Structure Registration Number: 1017604
 Not Applicable Notification filed with FAA

7.5. Antenna Location Site Elevation Above Mean Sea Level: 15.2 meters

7.6. Overall Tower Height Above Ground Level: 296.9 meters

7.7. Height of Radiation Center Above Ground Level: 281.3 meters

7.8. Height of Radiation Center Above Average Terrain: 290.7 meters

7.9. Maximum Effective Radiated Power (average): 11.1 kW

7.10. Antenna Specifications:
 Nondirectional Directional

a. Manufacturer DIE Model THB-C3SP-3H/6HD1H-1-T

b. Electrical Beam Tilt:
0.6 degrees Not Applicable

c. Mechanical Beam Tilt:
degrees toward azimuth
degrees True Not Applicable

d. Polarization:
 Horizontal Circular Elliptical

Directional Antenna Relative Field Values:
Rotation (Degrees): No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	0.815	10	0.654	20	0.489	30	0.374	40	0.334	50	0.278
60	0.211	70	0.230	80	0.242	90	0.246	100	0.242	110	0.230
120	0.211	130	0.278	140	0.334	150	0.374	160	0.489	170	0.654
180	0.815	190	0.910	200	0.980	210	1.000	220	0.983	230	0.928
240	0.848	250	0.790	260	0.828	270	0.859	280	0.828	290	0.790
300	0.848	310	0.928	320	0.983	330	1.000	340	0.980	350	0.910
Additional Azimuths		45	0.310	135	0.310	265	0.852	275	0.852		

8. Please explain in detail the "extraordinary circumstances" which warrant temporary operations at variance from the Commission's Rules. In addition, please specify 1) the specific rules and/or policies from which the applicant seeks temporary relief; 2) how the public interest will be furthered by grant; and 3) the expected duration of the STA and the licensee's plan for restoration of licensed operation. If requesting variance with other than authorized technical facilities, please specify the exact facilities sought

[Exhibit 21]

9. Anti-Drug Abuse Act Certification. Applicant certifies that neither applicant nor any party to the application is subject to denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862.

Yes No

I certify that I have prepared Engineering Data on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name RICHARD H. MERTZ	Relationship to Applicant (e.g., Consulting Engineer) CONSULTANT	
Signature	Date (mm/dd/yyyy) 02/16/2009	
Mailing Address CAVELL, MERTZ & ASSOCIATES, INC. 7839 ASHTON AVENUE		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20109 -
Telephone Number (No dashes or parentheses, include area code) 7033929090	E-Mail Address (if available) RMERTZ@CAVELLMERTZ.COM	

I hereby certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith. I acknowledge that all certifications and attached Exhibits are considered material representations.

Typed or Printed Name of Person Signing Signature	Typed or Printed Title of Person Signing Date (mm/dd/yyyy)
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WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

Exhibits

Exhibit 21**Description:** WJXX-DT STA REQUEST EXHIBIT 21EXHIBIT 21 CONTAINS THE ENGINEERING STATEMENT, FIGURES 1 TO 3, TABLE I, AND A COPY OF THE TECHNICAL PORTIONS OF THE FCC FORM.

Attachment 21

Description
WJXX-DT STA Request Exhibit 21
