

### SECTION III-D - DTV Engineering

Complete Questions 1-5 of the Certification Checklist and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.

**Certification Checklist:** A correct answer of "Yes" to all of the questions below will ensure an expeditious grant of a construction permit. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.

1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:

- (a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622. ☒ Yes ☐ No
- (b) It will operate from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☒ No
- (c) It will operate with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622. ☒ Yes ☐ No

2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. ☒ Yes ☐ No

Applicant must **submit the Exhibit** called for in Item 13.

3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community. ☒ Yes ☐ No

4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable. ☒ Yes ☐ No

5. The antenna structure to be used by this facility has been registered by the Commission and will not require reregistration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7. ☒ Yes ☐ No

**SECTION III-D DTV Engineering****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**

1. Channel Number: DTV 14 Analog TV, if any 15

2. Zone: ☐ I ☒ II ☐ III

3. Antenna Location Coordinates: (NAD 27)

35° 00' 09" ☒ N ☐ S Latitude

87° 08' 09" ☐ E ☒ W Longitude

4. Antenna Structure Registration Number: 1059649

☐ Not applicable

☐ FAA Notification Filed with FAA

5. Antenna Location Site Elevation Above Mean Sea Level: 256 meters

6. Overall Tower Height Above Ground Level: 410.6 meters

7. Height of Radiation Center Above Ground Level: 401 meters

8. Height of Radiation Center Above Average Terrain: 431 meters

9. Maximum Effective Radiated Power (average power): 1,000 kW

10. Antenna Specifications:

	Manufacturer	Model
a.	Dielectric	TFU-30DSC-R BP260DC

b. Electrical Beam Tilt: 0.75 degrees ☐ Not Applicable

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

Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c).

Exhibit No. B
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d. Polarization: ☒ Horizontal ☐ Circular

☐ Elliptical

# TECH BOX

e. Directional Antenna Relative Field Values: ☐ Not applicable (Nondirectional)

Rotation: \_\_\_\_\_ ° ☒ No rotation

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	0.178	60	0.278	120	0.976	180	0.660	240	0.973	300	0.278
10	0.178	70	0.425	130	0.873	190	0.635	250	0.997	310	0.199
20	0.178	80	0.604	140	0.731	200	0.594	260	0.930	320	0.178
30	0.178	90	0.786	150	0.621	210	0.614	270	0.790	330	0.178
40	0.178	100	0.928	160	0.601	220	0.725	280	0.608	340	0.178
50	0.199	110	0.997	170	0.639	230	0.869	290	0.426	350	0.178
Additional Azimuths											

If a directional antenna is proposed, the requirements of 47 C.F.R. Section 73.625(c) must be satisfied. **Exhibit required.**

Exhibit No.  
B

11. Does the proposed facility satisfy the interference protection provisions of 47 C.F.R. Section 73.623(a)? (Applicable only if **Certification Checklist** Items 1(a), (b), or (c) are answered "No.") ☒ Yes ☐ No

If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers.

Exhibit No.  
E

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefor. (Applicable only if **Certification Checklist** Item 3 is answered "No.")

Exhibit No.  
D

13. **Environmental Protection Act. Submit in an Exhibit** the following:

Exhibit No.  
F

- a. If **Certification Checklist** Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.

By checking "Yes" to **Certification Checklist** Item 2, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

If **Certification Checklist** Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R. Section 1.1311.

**PREPARER'S CERTIFICATION IN SECTION III MUST BE COMPLETED AND SIGNED.**

I 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. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing	Typed or Printed Title of Person Signing
Signature	Date

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).

### SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (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 KEVIN T. FISHER	Relationship to Applicant (e.g., Consulting Engineer) Broadcast Consultant	
Signature	Date May 13, 2004	
Mailing Address SMITH and FISHER, 2237 Tackett's Mill Drive, Suite A		
City Lake Ridge	State or Country (if foreign address) Virginia	ZIP Code 22192
Telephone Number (include area code) (703) 494-2101	E-Mail Address (if available) kevin@smithandfisher.com	

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).

EXHIBIT A

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of VALLEY TELEVISION, L. L. C., permittee of WHDF-DT, Channel 14 in Florence, Alabama, in support of its Application for Modification of Construction Permit BPCDT-19991029ADV, to specify a change in antenna. No change in site location, effective antenna height or effective radiated power is proposed herein.

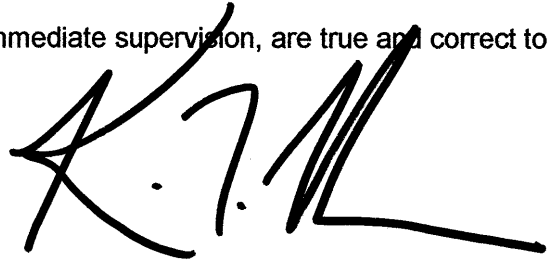
Exhibit B provides directional antenna pattern data, and proposed operating parameters are tabulated in Exhibit C. Exhibit D is a map upon which the predicted service contours are plotted. As shown, the city of license is completely contained within the proposed 48 dBu service contour. Since the proposed ERP is greater than that specified in the allotment in certain directions, and since the proposed site is not within 5 kilometers of the allotment site, an interference study is included in Exhibit E. A power density calculation is provided in Exhibit F.

It is not expected that the proposed facility would cause objectionable interference to any other broadcast or non-broadcast station authorized to operate at or near the WHDF-DT site. However, if such should occur, the owner of this station recognizes its obligation to take whatever corrective actions are necessary.

Since no change in the overall height or location of the existing tower is proposed herein, the FAA has not been notified of this application. In addition, the FCC issued Antenna Structure Registration Number 1059649 to this tower.

EXHIBIT A

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in black ink, appearing to read 'K.T. Fisher', with a stylized, sweeping flourish at the end.

KEVIN T. FISHER

May 13, 2004

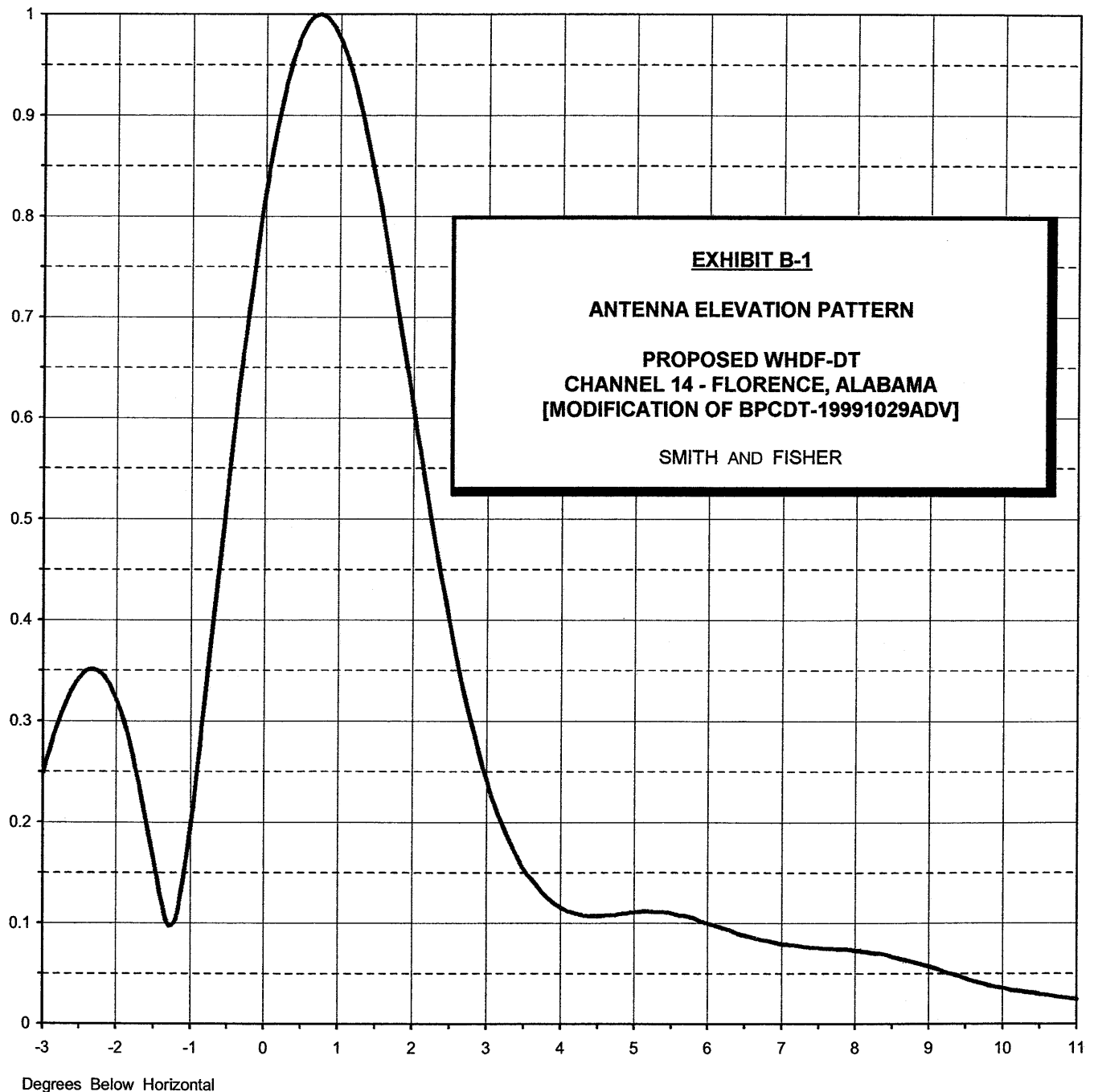


Proposal Number	DCA-10537	Revision:	2
Date	5-May-04		
Call Letters	WHDF-DT	Channel	14
Location	Florence, AL		
Customer			
Antenna Type	TFU-30DSC-R BP260 DC		

### ELEVATION PATTERN

RMS Gain at Main Lobe	23.00 ( 13.62 dB )
RMS Gain at Horizontal	15.60 ( 11.93 dB )
Calculated / Measured	Calculated

Beam Tilt	0.75 deg
Frequency	473.00 MHz
Drawing #	30Q230075





**EXHIBIT B-2**

**ANTENNA AZIMUTH PATTERN**

**PROPOSED WHDF-DT  
CHANNEL 14 - FLORENCE, ALABAMA  
[MODIFICATION OF BPCDT-19991029ADV]**

**SMITH AND FISHER**

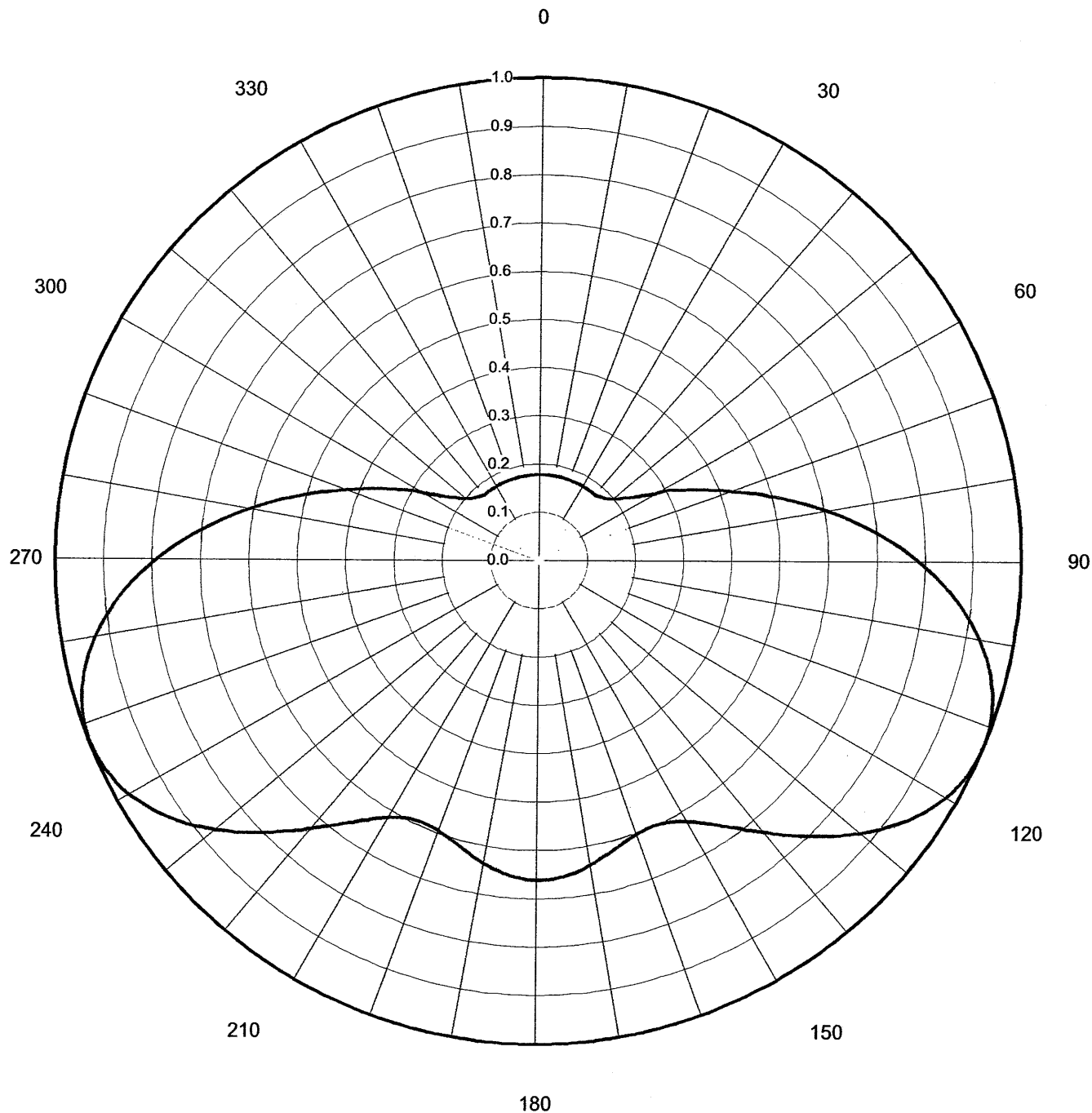
**AZIMUTH PATTERN**

Gain **2.60**  
Calculated / Measured

**( 4.15 dB)**  
**Calculated**

Frequency  
Drawing #

**473.00 MHz**  
**TFU-BP260-14**





## ANTENNA AZIMUTH PATTERN DATA

PROPOSED WHDF-DT  
CHANNEL 14 – FLORENCE, ALABAMA  
[MODIFICATION OF BPCDT-19991029ADV]

<u>Azimuth</u> <u>(° T)</u>	<u>Relative</u> <u>Field</u>	<u>ERP</u> <u>(dbk)</u>	<u>Azimuth</u> <u>(° T)</u>	<u>Relative</u> <u>Field</u>	<u>ERP</u> <u>(dbk)</u>
0	0.178	15.0	180	0.660	26.4
10	0.178	15.0	190	0.635	26.1
20	0.178	15.0	200	0.594	25.5
30	0.178	15.0	210	0.614	25.8
40	0.178	15.0	220	0.725	27.2
50	0.199	16.0	230	0.869	28.8
60	0.278	18.9	240	0.973	29.8
70	0.425	22.6	250	0.997	30.0
80	0.604	25.6	260	0.930	29.4
90	0.786	27.9	270	0.790	28.0
100	0.928	29.4	280	0.608	25.7
110	0.997	30.0	290	0.426	22.6
120	0.976	29.8	300	0.278	18.9
130	0.873	28.8	310	0.199	16.0
140	0.731	27.3	320	0.178	15.0
150	0.621	25.9	330	0.178	15.0
160	0.601	25.6	340	0.178	15.0
170	0.639	26.1	350	0.178	15.0

EXHIBIT C

PROPOSED OPERATING PARAMETERS

PROPOSED WHDF-DT  
CHANNEL 14 – FLORENCE, ALABAMA  
[MODIFICATION OF BPCDT-19991029ADV]

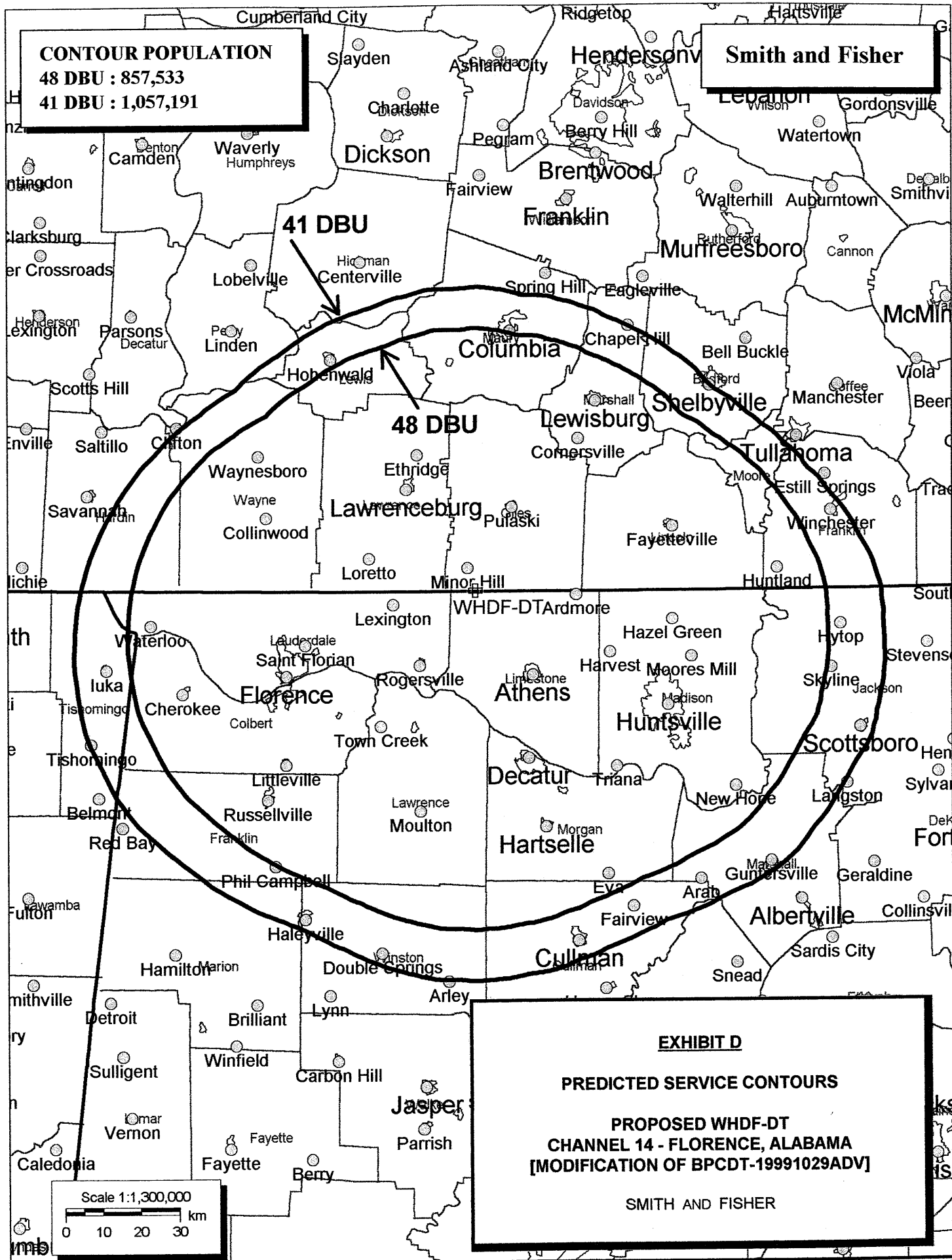
Transmitter Power Output:	23.4 kw
Transmission Line Efficiency:	70.6%
Antenna Power Gain – Main Lobe:	59.8
Effective Radiated Power – Main Lobe:	1,000 kw

Transmitter Make and Model:	Type-accepted
Rated Output	30 kw

Transmission Line Make and Model:	Dielectric EIA/DCA
Size and Type:	6 1/8" rigid
Length:	1,440 feet

Antenna:

Make and Model:	Dielectric TFU-30DSC-R BP260DC
Orientation	180 degrees true
Beam Tilt	0.75 degrees
Effective Height Above Ground:	401 meters
Effective Height Above Mean Sea Level:	657 meters



INTERFERENCE STUDY  
PROPOSED WHDF-DT  
CHANNEL 14 – FLORENCE, ALABAMA  
[MODIFICATION OF BPCDT-19991029ADV]

The instant application specifies an ERP of 1,000 kw (directional) at 431 meters above average terrain, which we have determined to be allowable under the FCC's *de minimis* standards with respect to various NTSC and DTV facilities.

In evaluating the interference effect of this proposal, we have relied upon the V-Soft Communications "Probe II" computer program, which has been found generally to mimic the FCC's program. In conducting our studies, we employed a signal resolution of 2 kilometers and an increment spacing of 1.0 kilometer along each radial, unless otherwise noted. In addition, we utilized the 1990 U.S. Census. Changes in interference caused by proposed WHDF-DT to other pertinent stations are tabulated in Exhibit E-2.

As shown, the proposed WHDF-DT facility would not contribute more than two percent DTV interference to the service population of any affected NTSC or DTV station. In addition, this proposal does not result in any NTSC or DTV station receiving more than ten percent total DTV interference to viewers living within its authorized service area.

A Longley-Rice interference study also reveals that the proposed WHDF-DT facility does not cause interference within the protected 74 dBu contour of any potentially affected Class A low power television station.

Therefore, this proposal meets the FCC's *de minimis* interference standards for DTV operations.

EXHIBIT E-2

INTERFERENCE STUDY SUMMARY  
 PROPOSED WHDF-DT  
 CHANNEL 14 – FLORENCE, ALABAMA  
 [MODIFICATION OF BPCDT-19991029ADV]

<u>Call Sign</u>	<u>City, State</u>	<u>CH.</u>	<u>Coverage Population</u>	<u>Interference Population From WHDF-DT</u>	<u>%</u>	<u>Total DTV Interference</u>	<u>%</u>
WAIQ-DT BMPEDT-20000501AIP	Montgomery, AL	14	504,117	478	0.1	858	0.2
WAIQ-DT Allotment	Montgomery, AL	14	412,745	97	<0.1	97	<0.1
WSFA-DT BMPEDT-20021223AAN	Montgomery, AL	14	740,540	213	<0.1	16,405	2.2
WPXA BLCT-19970826KE	Rome, GA	14	3,398,614	38,484	1.1	52,876	1.6
WPXA BPCT-20001013ABG	Rome, GA	14	3,467,678	40,263	1.2	58,580	1.7
WZTV-DT BPCDT-19991101ADI	Nashville, TN	15	1,558,749	17,389	1.1	17,389	1.1
WZTV-DT Allotment	Nashville, TN	15	1,341,559	0	0	3,593	0.3
WKSO-DT Allotment	Somerset, KY	14	480,497	0	0	2,827	0.6
Appl. BPET-19950811KE	Memphis, TN	14	1,223,242	15,542	1.3	15,542	1.3
Appl. BPET-19960111KZ	Memphis, TN	14	1,353,100	8,078	0.6	8,247	0.6
Appl. BPET-19960405KF	Memphis, TN	14	1,224,790	1,167	0.1	1,953	0.2
Appl. BPET-19960405KF	Memphis, TN	14	1,267,856	3,956	0.3	4,200	0.3

EXHIBIT F

POWER DENSITY CALCULATION

PROPOSED WHDF-DT  
CHANNEL 14 – FLORENCE, ALABAMA

[MODIFICATION OF BPCDT-19991029ADV]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Florence facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 1,000 kw, an effective antenna height of 401 meters above ground, and the elevation pattern of the Dielectric antenna, maximum power density two meters above ground of  $0.00079 \text{ mw/cm}^2$  is calculated to occur 335 meters from the base of the tower. Since this is only 0.3 percent of the  $0.31 \text{ mw/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 14 (470-476 MHz), a grant of this proposal may be considered a minor environmental action with respect to public and occupational ground-level exposure to nonionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive nonionizing radiation.