

**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 26    Analog TV, if any 26		
2.	Zone: <input type="radio"/> I <input checked="" type="radio"/> II <input type="radio"/> III		
3.	Antenna Location Coordinates: (NAD 27) Latitude: Degrees 42 Minutes 23 Seconds 36 <input checked="" type="radio"/> North <input type="radio"/> South  Longitude: Degrees 79 Minutes 13 Seconds 44 <input checked="" type="radio"/> West <input type="radio"/> East		
4.	Antenna Structure Registration Number: 1009129 <input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA		
5.	Antenna Location Site Elevation Above Mean Sea Level:    545 meters		
6.	Overall Tower Height Above Ground Level:    322.8 meters		
7.	Height of Radiation Center Above Ground Level:    313 meters		
8.	Height of Radiation Center Above Average Terrain :    463 meters		
9.	Maximum Effective Radiated Power (average power):    450 kW		
10.	Antenna Specifications:  a. Manufacturer AND    Model ATW30H3-ETC4-26H  b. Electrical Beam Tilt: 1 degrees <input type="checkbox"/> Not Applicable  c. Mechanical Beam Tilt: degrees toward azimuth degrees True <input checked="" type="checkbox"/> Not Applicable  <table border="1" data-bbox="284 1528 1380 1600"><tr><td>Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c).</td><td>[Exhibit 45]</td></tr></table>  d. Polarization: <input type="radio"/> Horizontal <input type="radio"/> Circular <input checked="" type="radio"/> Elliptical  e. Directional Antenna Relative Field Values: <input type="checkbox"/> Not applicable (Nondirectional)  [For a composite directional (not off-the-shelf) antenna, press the following button to fill in the relative field values subform.]	Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c).	[Exhibit 45]
Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c).	[Exhibit 45]		

[Relative Field Values]

**10e. Directional Antenna Relative Field Values**

[Fill in this subform for a composite directional (not off-the-shelf) antenna, only.]

e. Directional Antenna Relative Field Values:

Rotation (Degrees): 0  No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	1	10	0.989	20	0.956	30	0.907	40	0.848	50	0.785
60	0.723	70	0.667	80	0.612	90	0.554	100	0.489	110	0.413
120	0.328	130	0.247	140	0.2	150	0.214	160	0.262	170	0.306
180	0.322	190	0.306	200	0.262	210	0.214	220	0.2	230	0.247
240	0.328	250	0.413	260	0.489	270	0.554	280	0.612	290	0.667
300	0.723	310	0.785	320	0.848	330	0.907	340	0.956	350	0.989
Additional Azimuths											

[Relative Field Polar Plot](#)

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

[Exhibit 46]

11. Does the proposed facility satisfy the pre-transition 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.") and/or the post-transition interference protection provisions of 47 C.F.R. Section 73.616?

Yes  No

[Exhibit 47]

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

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

[Exhibit 48]

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

[Exhibit 49]

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.

**PREPARERS CERTIFICATION ON SECTION III MUST BE COMPLETED AND SIGNED.**

### **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 KYLE T. FISHER	Relationship to Applicant (e.g., Consulting Engineer) BROADCAST CONSULTANT	
Signature	Date 12/06/2011	
Mailing Address SMITH AND FISHER 2237 TACKETTS MILL DRIVE, SUITE A		
City LAKE RIDGE	State or Country (if foreign address) VA	Zip Code 22192 -
Telephone Number (include area code) 7034942101	E-Mail Address (if available) KYLE@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).**

**ENGINEERING STATEMENT**

The engineering data contained herein have been prepared on behalf of FAITH BROADCASTING NETWORK, INC., licensee of WNYB-DT, Channel 26 in Jamestown, New York, in support of this amendment to its pending application for Construction Permit BMPCDT-20080619AFD. In it we are specifying a decrease in effective radiated power in order to satisfy interference concerns to two Canadian television stations. No change in site location, antenna make/model or height is proposed herein.

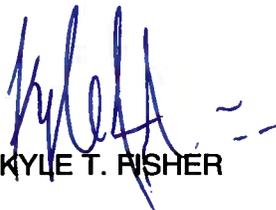
It is proposed to utilize the present directional antenna which is mounted at the 313-meter level of an existing 323-meter tower. Exhibit B provides antenna elevation and azimuth pattern data for the antenna. Exhibit C is a map upon which the predicted service contours are plotted. As shown, the city of license is completely contained within the proposed 48 dBu service contour. An interference study is included in Exhibit D, and a power density calculation is provided in Exhibit E.

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 WNYB-DT site. However, if such should occur, the owner of this station recognizes its obligation to take whatever corrective actions are necessary.

EXHIBIT A

Since no change in 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 1009129 to this tower.

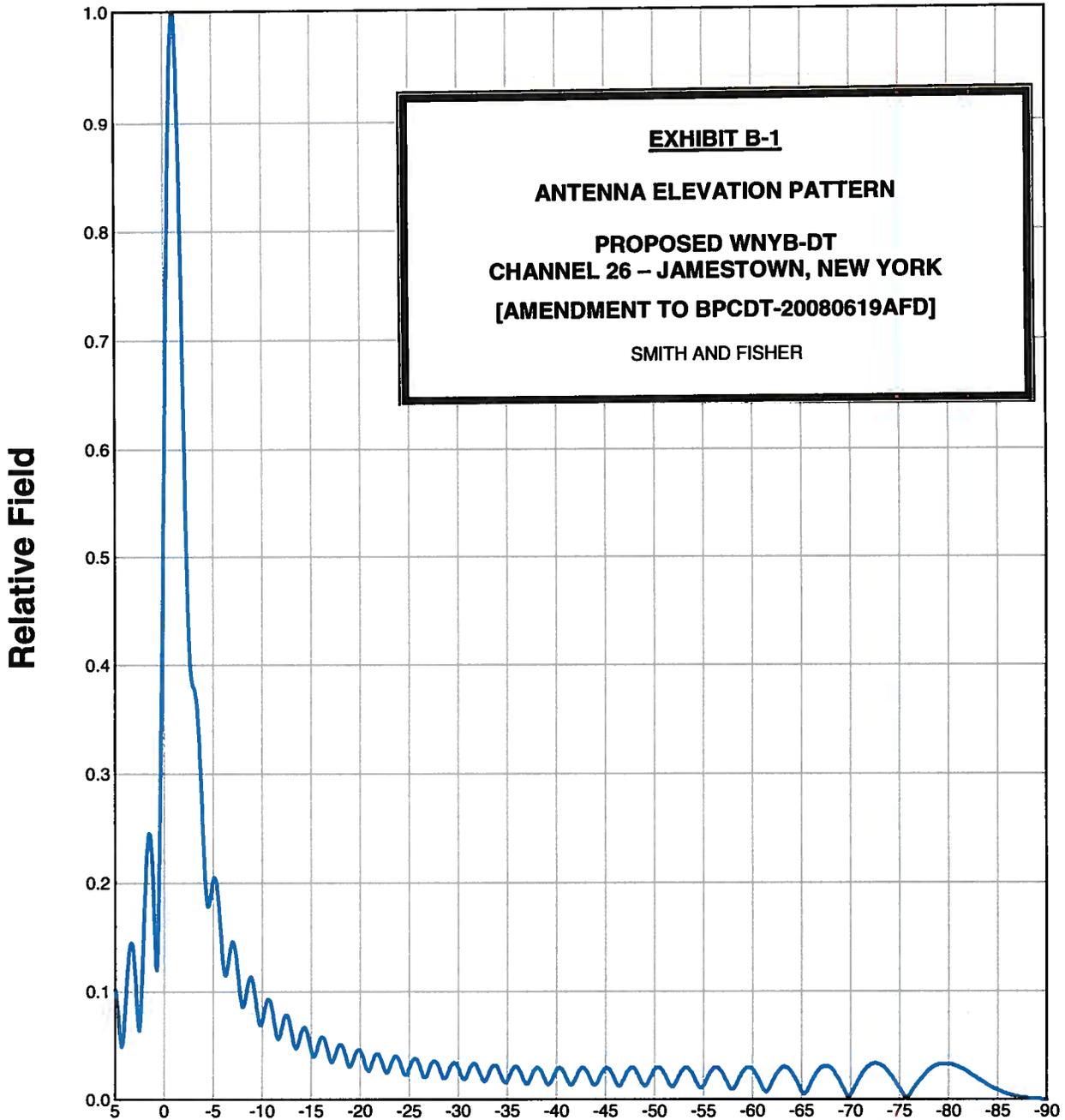
I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

  
KYLE T. FISHER

December 5, 2011

### ELEVATION PATTERN

Type:	ATW30H4H		Channel:	26
Directivity:	Numeric	dBd	Location:	
Main Lobe:	30.00	14.77	Beam Tilt:	-1.00
Horizontal:	9.73	9.88	Polarization:	Horizontal

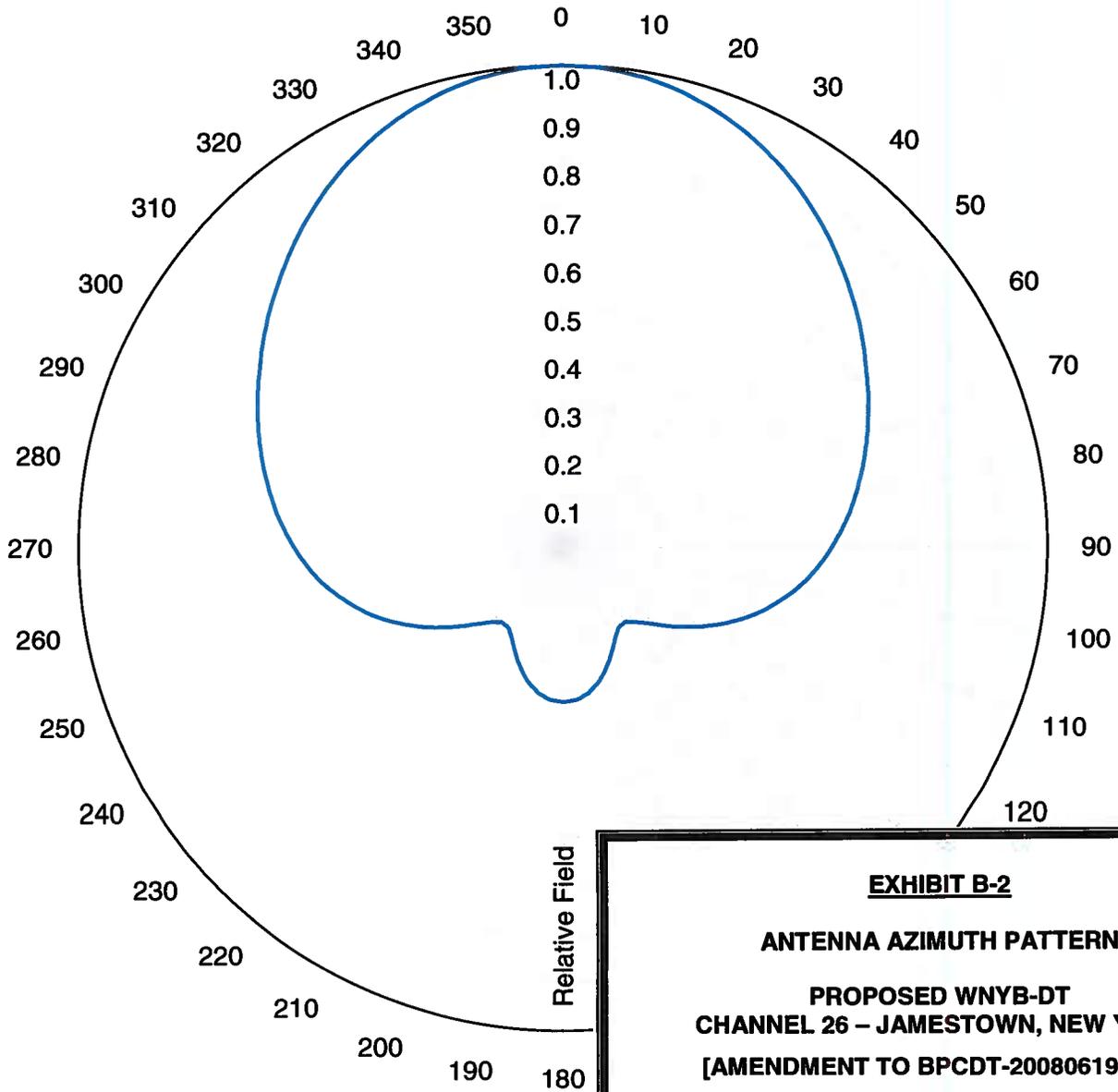


Preliminary, subject to final design and review.

### AZIMUTH PATTERN

Type: ATW-C4  
 Directivity: Numeric 2.54 dBd 4.05  
 Peak(s) at: \_\_\_\_\_

Channel: 26  
 Location: \_\_\_\_\_  
 Polarization: Horizontal  
 Note: Pattern shape and directivity may vary with channel and mouting configuration.



**EXHIBIT B-2**  
**ANTENNA AZIMUTH PATTERN**  
**PROPOSED WNYB-DT**  
**CHANNEL 26 – JAMESTOWN, NEW YORK**  
**[AMENDMENT TO BPCDT-20080619AFD]**  
 SMITH AND FISHER

Preliminary, subject to final design and review.

## TABULATED DATA FOR AZIMUTH FCC FILING FORMAT

Type: ATW-C4

Polarization: Horizontal

### EXHIBIT B-3

#### ANTENNA RELATIVE FIELD VALUES

PROPOSED WNYB-DT  
CHANNEL 26 – JAMESTOWN, NEW YORK  
[AMENDMENT TO BPCDT-20080619AFD]

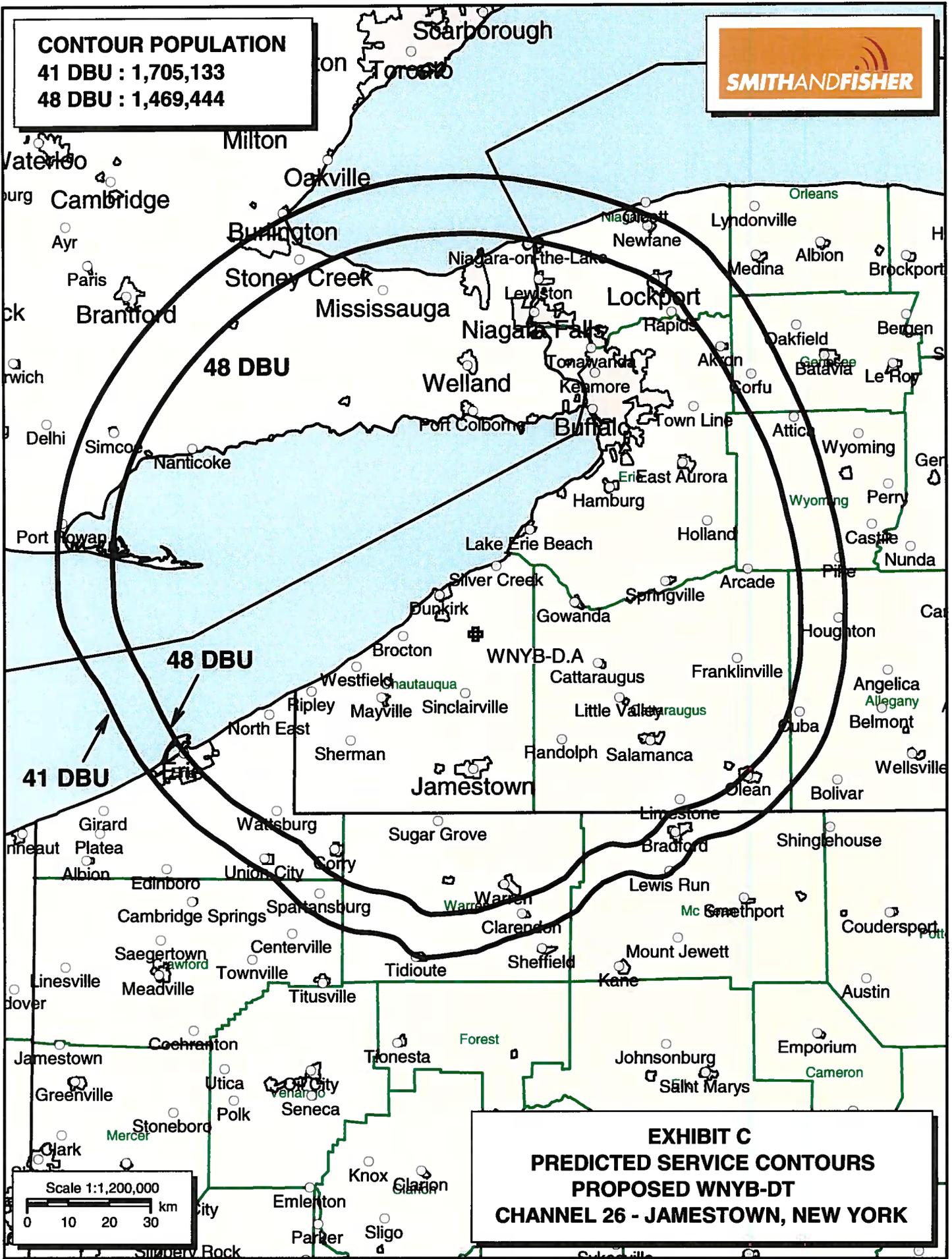
SMITH AND FISHER

ANGLE	FIELD	ERP (kW)	ERP (dBk)
0	1.000	450.000	26.532
10	0.989	440.154	26.436
20	0.956	411.271	26.141
30	0.907	370.192	25.684
40	0.848	323.597	25.100
50	0.785	277.301	24.430
60	0.723	235.228	23.715
70	0.667	200.200	23.015
80	0.612	168.545	22.267
90	0.554	138.112	21.402
100	0.489	107.604	20.318
110	0.413	76.756	18.851
120	0.328	48.413	16.850
130	0.247	27.454	14.386
140	0.200	18.000	12.553
150	0.214	20.608	13.140
160	0.262	30.890	14.898
170	0.306	42.136	16.247
180	0.322	46.658	16.689
190	0.306	42.136	16.247
200	0.262	30.890	14.898
210	0.214	20.608	13.140
220	0.200	18.000	12.553
230	0.247	27.454	14.386
240	0.328	48.413	16.850
250	0.413	76.756	18.851
260	0.489	107.604	20.318
270	0.554	138.112	21.402
280	0.612	168.545	22.267
290	0.667	200.200	23.015
300	0.723	235.228	23.715
310	0.785	277.301	24.430
320	0.848	323.597	25.100
330	0.907	370.192	25.684
340	0.956	411.271	26.141
350	0.989	440.154	26.436

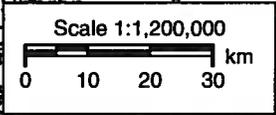
*Preliminary, subject to final design and review.*



**CONTOUR POPULATION**  
**41 DBU : 1,705,133**  
**48 DBU : 1,469,444**



**EXHIBIT C**  
**PREDICTED SERVICE CONTOURS**  
**PROPOSED WNYB-DT**  
**CHANNEL 26 - JAMESTOWN, NEW YORK**



INTERFERENCE STUDY

PROPOSED WNYB-DT  
CHANNEL 26 – JAMESTOWN, NEW YORK  
[AMENDMENT TO BPCDT-20080619AFD]

The instant application specifies an ERP of 450 kw (directional) at 463 meters above average terrain, which we have determined to be allowable under the FCC's interference standards with respect to various digital television facilities.

In evaluating the interference effect of this proposal, we have relied upon the V-Soft Communications "Probe III" computer program, which has been found generally to mimic the FCC's program. In conducting our studies, we employed a cell size of 2.0 kilometers and an increment spacing of 1.0 kilometer along each radial. In addition, we utilized the 2000 U.S. Census. Changes in interference caused by proposed WNYB-DT to other pertinent stations are tabulated in Exhibit D-2.

As shown, the proposed WNYB-DT facility would not contribute more than 0.5% interference to the service population of any potentially affected post-transition DTV station.

A Longley-Rice interference study also reveals that the proposed WNYB-DT facility does not cause significant (0.5%) interference within the protected 74 dBu contour of any potentially affected Class A low power television station.

It is also important to note that the proposed WNYB-DT facility meets the 0.5% interference increase requirement to Canadian stations CIII-TV-4-D, Channel 26 in Owen Sound, Ontario, and to CICO-TV-5-D, Channel 26 in Belleville, Ontario.

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

INTERFERENCE STUDY SUMMARY

PROPOSED WNYB-DT  
CHANNEL 26 – JAMESTOWN, NEW YORK  
[AMENDMENT TO BPCDT-20080619AFD]

<u>Call Sign</u>	<u>Status</u>	<u>City, State</u>	<u>Ch.</u>	<u>Longley-Rice Service Population</u>	<u>Unmasked Interference From Proposed Facility</u>	<u>%</u>
WHAG-DT BLCDT-20090612AFP	Lic.	Hagerstown, MD	26	1,939,756	3	<0.1
WONS-LD BDFCDTA-20110531AGF	App.	Olean, NY	25	73,293	620	0.8
WVIZ-D BLEDT-20090611ABH	Lic.	Cleveland, OH	26	3,712,543	13,228	0.4
CIII-TV-4-D BPFS-20081204ABP	Lic.	Owen Sound, ON	26	303,443*	1,343	0.4
CICO-TV-5-D BPFS-20081201ASM	Lic.	Belleville, ON	26	376,597*	1,018	0.3

\*Based upon 1996 Canadian Census data; Interference over Canadian soil; Interference masking also considered.

POWER DENSITY CALCULATION

PROPOSED WNYB-DT  
CHANNEL 26 – JAMESTOWN, NEW YORK  
[AMENDMENT TO BPCDT-20080619AFD]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Jamestown facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 450 kw (H, V), an antenna radiation center 313 meters above ground, and the elevation pattern of the Andrew antenna, maximum power density two meters above ground of  $0.00031 \text{ mw/cm}^2$  is calculated to occur 55 meters north of the base of the tower. Since this is only 0.1 percent of the  $0.36 \text{ mw/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 26 (542-548 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.