

**EXHIBIT 41  
ENGINEERING STATEMENT  
IN SUPPORT OF AN AMENDMENT  
APPLICATION BPCDT-19991101AII  
WVVA-DT 1,000 KW 361 M AAT CH. 46  
BLUEFIELD, WEST VIRGINIA**

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Prepared by  
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May, 2001

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**INTRODUCTION**

This statement was prepared on behalf of WVVA Television, Inc., licensee of commercial television broadcast station WVVA, Channel 6, Bluefield, West Virginia. WVVA Television, Inc. has an application for construction permit pending before the Commission to activate the digital television (DTV) Channel 46 allotment that was paired with the analog television (TV) license of WVVA. That application is now being amended for a new antenna location in response to Federal Communications Commission (FCC) Letter Number 1800E1-RHL dated March 12, 2001. The application as amended proposes to locate the DTV Channel 46 antenna on the existing analog TV Channel 6 tower of WVVA rather than constructing the new tower described in the original application.

This statement along with Section III-D of FCC Form 301 provides technical information in support of an amendment to the application by WVVA Television, Inc. All technical data contained in or attached to this statement has been determined in accordance with the current FCC Rules.

**PROPOSED CHANGE IN FACILITIES**

WVVA Television, Inc. proposed in pending application BPCDT-19991101AII to construct an 88 meter antenna structure for the new DTV Channel 46 facility. It now proposes to locate the DTV antenna on the existing tower used to support WVVA's analog-TV Channel 6 antenna. A new custom antenna stack, comprised of Dielectric Models TF-3MT (top) and

TFU-22GBH-R O8 (bottom), will be top mounted on the tower in place of the present Channel 6 antenna. The bottom stack antenna (TFU-22GBH-R O8) will be used for DTV Channel 46 and the antenna radiation center height above average terrain (HAAT) will be 361 meters.

WVVA will operate on DTV Channel 46 in a nondirectional mode with an effective radiated power (ERP) of 1,000 kW. The intended nondirectional ERP exceeds the reference power in the DTV Allotment Plan in certain directions, however, this non-checklist proposal meets both the Commission's interference criteria in Section 73.623 and the maximum power requirement for UHF in Section 73.622(f)(8).

Service to the entire community of Bluefield is predicted to exceed the current minimum signal requirement of 41 dBu F(50,90) set forth in Section 73.625(a) of the FCC Rules. Attached as Figure 1 is a map showing both the 41 and 48 dBu noise limited contours. The map clearly indicates that the proposal meets the current 41 dBu service requirement and the future 48 dBu coverage rule.

## **INTERFERENCE ANALYSIS**

The application, as amended, requires a technical response to Item 11 of Section III-D of FCC Form 301 to demonstrate compliance with the interference protection provisions of Section 73.623(a) of the FCC Rules. An interference analysis was conducted to evaluate the impact of the DTV Channel 46 proposal on other DTV and NTSC services. As described in detail in the original application, interference was examined using the Commission's DTV Interference Model.

The proposed DTV facility on Channel 46 meets the *de minimis* interference standard with respect to all NTSC stations and DTV allotments, including all non-checklist authorizations and non-checklist applications filed prior to this proposal, in accordance with Section

73.623(c) of the FCC Rules. Figures 2 and 3 summarize the proposal's impact on analog TV and DTV, respectively. Population lost to interference was determined using the procedures outlined in the Commission's *OET Bulletin No. 69*, based on the recommended cell size of 2 kilometers on a side. Current FCC database records were relied on to evaluate the affect on analog TV and non-checklist DTV stations while the reference facilities contained in the DTV Allotment Plan were used to determine the impact on DTV allotments.

Respectfully submitted,  
Lohnes and Culver



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D. Scott Turpie

May, 2001



**FIGURE 2**  
**ANALOG TV INTERFERENCE ANALYSIS**  
**WVVA-DT 1000KW 361M HAAT CH.46**  
**BLUEFIELD, WEST VIRGINIA**

<b>NTSC STATIONS REQUIRING ANALYSIS</b>		<b>INITIAL DTV IMPACT ON NTSC SERVICE (MM D87-268)</b>	<b>CURRENT DTV IMPACT ON NTSC SERVICE (1990 Census)</b>	<b>PROPOSAL'S IMPACT ON NTSC SERVICE (1990 Census)</b>
<b>46</b>	<b>WKLE Lexington, KY</b>			
	NTSC Grade B Service:	649,108	649,108	649,108
	• Service Loss Due To NTSC Interference:	226	226	226
	• Service Loss Due To Additional DTV Interference:	15,013	14,275	14,765
	<b>Interference Contribution By Proposal</b> , rounded to the nearest tenth of a percent (2.0% Limit):	- -	- -	<b>0.08%</b>
	<b>Cumulative Effect On NTSC Service</b> , rounded to the nearest tenth of a percent (10.0% Limit)	<b>2.31%</b>	<b>2.20%</b>	<b>2.27%</b>
<b>46</b>	<b>WJZY Belmont, NC</b>			
	NTSC Grade B Service:	2,395,948	2,395,948	2,395,948
	• Service Loss Due To NTSC Interference:	150,058	135,893	135,893
	• Service Loss Due To Additional DTV Interference:	37,628	62,886	64,036
	<b>Interference Contribution By Proposal</b> , rounded to the nearest tenth of a percent (2.0% Limit):	- -	- -	<b>0.05%</b>
	<b>Cumulative Effect On NTSC Service</b> , rounded to the nearest tenth of a percent (10.0% Limit)	<b>1.57%</b>	<b>2.62%</b>	<b>2.67%</b>
<b>45</b>	<b>WXLV-TV Winston-Salem, NC</b>			
	NTSC Grade B Service:	1,806,300	1,551,001	1,551,001
	• Service Loss Due To NTSC Interference:	84,906	27,376	27,376
	• Service Loss Due To Additional DTV Interference:	11,214	9,230	9,230
	<b>Interference Contribution By Proposal</b> , rounded to the nearest tenth of a percent (2.0% Limit):	- -	- -	<b>0.00%</b>
	<b>Cumulative Effect On NTSC Service</b> , rounded to the nearest tenth of a percent (10.0% Limit)	<b>0.62%</b>	<b>0.60%</b>	<b>0.60%</b>
<b>47*</b>	<b>WSBN-TV Norton, VA</b>			
	NTSC Grade B Service:	818,297	818,297	818,297
	• Service Loss Due To NTSC Interference:	5,133	6,082	6,082
	• Service Loss Due To Additional DTV Interference:	4,915	22,124	22,124
	<b>Interference Contribution By Proposal</b> , rounded to the nearest tenth of a percent (2.0% Limit):	- -	- -	<b>0.00%</b>
	<b>Cumulative Effect On NTSC Service</b> , rounded to the nearest tenth of a percent (10.0% Limit)	<b>0.60%</b>	<b>2.70%</b>	<b>2.70%</b>
<b>38</b>	<b>WPXR Roanoke, VA</b>			
	NTSC Grade B Service:	769,185	773,074	773,074
	• Service Loss Due To NTSC Interference:	700	2,403	2,403
	• Service Loss Due To Additional DTV Interference:	12,403	25,900	25,900
	<b>Interference Contribution By Proposal</b> , rounded to the nearest tenth of a percent (2.0% Limit):	- -	- -	<b>0.00%</b>
	<b>Cumulative Effect On NTSC Service</b> , rounded to the nearest tenth of a percent (10.0% Limit)	<b>1.61%</b>	<b>3.35%</b>	<b>3.35%</b>
<b>46</b>	<b>WVFX Clarksburg, WV</b>			
	NTSC Grade B Service:	286,072	286,072	286,072
	• Service Loss Due To NTSC Interference:	133	0	0
	• Service Loss Due To Additional DTV Interference:	7,761	10,305	10,692
	<b>Interference Contribution By Proposal</b> , rounded to the nearest tenth of a percent (2.0% Limit):	- -	- -	<b>0.14%</b>
	<b>Cumulative Effect On NTSC Service</b> , rounded to the nearest tenth of a percent (10.0% Limit)	<b>2.71%</b>	<b>3.60%</b>	<b>3.74%</b>

**FIGURE 3  
DTV INTERFERENCE ANALYSIS  
WVVA-DT 1000KW 361M HAAT CH.46  
BLUEFIELD, WEST VIRGINIA**

<b>DTV STATIONS REQUIRING ANALYSIS:</b>		<b>CURRENT IMPACT ON DTV SERVICE (1990 Census)</b>	<b>PROPOSED IMPACT ON DTV SERVICE (1990 Census)</b>
<b>46</b>	<b>Wilmington, NC 1000 kW and 594 m HAAT</b>		
	DTV Service From <i>Appendix B in MM Dkt. 87-268</i> :	1,051,000	1,051,000
	Associated NTSC Service From <i>Appendix B in MM Dkt. 87-268</i> :	758,000	758,000
	Baseline Population:	1,051,000	1,051,000
	• Service Loss If The Associated NTSC Service Area Is Larger:	0	0
	• Service Loss Due To Analog TV (NTSC) Interference:	0	0
	• Service Loss Due To Additional Interference From DTV:	0	0
	• Service Loss Due To Proposal:	- -	0
	Total Service Loss:	0	0
	<b>Interference Contribution By Proposal</b> , rounded to the nearest tenth of a percent (2.0% Limit):	- -	<b>0.00%</b>
	<b>Cumulative Effect On DTV Service</b> , rounded to the nearest tenth of a percent (10.0% Limit):	<b>0.00%</b>	<b>0.00%</b>
<b>46</b>	<b>Chillicothe, OH 154.7 kW and 362 m HAAT</b>		
	DTV Service From <i>Appendix B in MM Dkt. 87-268</i> :	1,769,000	1,769,000
	Associated NTSC Service From <i>Appendix B in MM Dkt. 87-268</i> :	1,689,000	1,689,000
	Baseline Population:	1,769,000	1,769,000
	• Service Loss If The Associated NTSC Service Area Is Larger:	0	0
	• Service Loss Due To Analog TV (NTSC) Interference:	64,659	64,659
	• Service Loss Due To Additional Interference From DTV:	2,065	2,065
	• Service Loss Due To Proposal:	- -	575
	Total Service Loss:	66,724	67,299
	<b>Interference Contribution By Proposal</b> , rounded to the nearest tenth of a percent (2.0% Limit):	- -	<b>0.03%</b>
	<b>Cumulative Effect On DTV Service</b> , rounded to the nearest tenth of a percent (10.0% Limit):	<b>3.77%</b>	<b>3.80%</b>
<b>46</b>	<b>WWHO-DT Chillicothe, OH (Non-checklist Facilities)</b>		
	DTV Service From <i>Appendix B in MM Dkt. 87-268</i> :	1,769,000	1,769,000
	Associated NTSC Service From <i>Appendix B in MM Dkt. 87-268</i> :	1,689,000	1,689,000
	Baseline Population:	1,769,000	1,769,000
	• Service Loss If The Associated NTSC Service Area Is Larger:	0	0
	• Service Loss Due To Analog TV (NTSC) Interference:	95,378	95,378
	• Service Loss Due To Additional Interference From DTV:	32,522	32,522
	• Service Loss Due To Proposal:	- -	205
	Total Service Loss:	127,900	128,105
	<b>Interference Contribution By Proposal</b> , rounded to the nearest tenth of a percent (2.0% Limit):	- -	<b>0.01%</b>
	<b>Cumulative Effect On DTV Service</b> , rounded to the nearest tenth of a percent (10.0% Limit):	<b>7.23%</b>	<b>7.24%</b>
<b>46</b>	<b>Altoona, PA 50 kW and 308 m HAAT</b>		
	DTV Service From <i>Appendix B in MM Dkt. 87-268</i> :	576,000	576,000
	Associated NTSC Service From <i>Appendix B in MM Dkt. 87-268</i> :	530,000	530,000
	Baseline Population:	576,000	576,000
	• Service Loss If The Associated NTSC Service Area Is Larger:	0	0
	• Service Loss Due To Analog TV (NTSC) Interference:	18,178	18,178
	• Service Loss Due To Additional Interference From DTV:	8,182	8,182
	• Service Loss Due To Proposal:	- -	0
	Total Service Loss:	26,360	26,360
	<b>Interference Contribution By Proposal</b> , rounded to the nearest tenth of a percent (2.0% Limit):	- -	<b>0.00%</b>
	<b>Cumulative Effect On DTV Service</b> , rounded to the nearest tenth of a percent (10.0% Limit):	<b>4.58%</b>	<b>4.58%</b>