

ENGINEERING STATEMENT
IN SUPPORT OF MODIFICATION OF CONSTRUCTION PERMIT
BPCDT-20080222AEC
FOR THE PROPOSED DIGITAL TV OPERATION OF
WDTV-DT, WESTON, WEST VIRGINIA
CHANNEL 5 10 KW 240 METERS
JUNE 2008

This engineering statement has been prepared on behalf of Withers Broadcasting Company, licensee of TV station WDTV, Weston West Virginia, in support of modification of its construction permit (BPCDT-20080222AEC) for post-transition digital TV (DTV) operation on Channel 5.

At present WDTV, Facility ID Number 70592, operates its analog TV facilities on Channel 5 (76-82 MHz) with 100 kW effective radiated power (ERP) and 268 meters antenna height above average terrain (HAAT) using a non-directional TV antenna. WDTV also holds a construction permit (CP) to operate its digital TV facility on Channel 5 with 10 kW ERP, 248 meters HAAT and a directional TV antenna. WDTV is filing the instant application to modify its CP to operate with 10 kW ERP and 236 meters HAAT from a different antenna site. The proposed antenna site is an existing tower (ASR No. 1034466) currently used by TV station WVFX, Clarksburg, West Virginia. The proposed TV antenna for WDTV's digital TV operation will be top-mounted on the WVFX tower, replacing the existing antenna, with no change in the overall tower height.

The following information provides pertinent data for the proposed WDTV-DT operation.

Name of the Licensee:	Withers Broadcasting Company
Station Location:	WV-Weston
Channel:	5
Hours of Operation:	Unlimited
Transmitter:	Type Accepted
Antenna Type:	Dielectric, TF-2MT

Beam Tilt:	None			
Antenna Coordinates:	North Latitude:	39 deg	18 min	02 sec
	West Longitude:	80 deg	20 min	37 sec
Transmitter output power:	As required to achieve authorized ERP			
Maximum effective radiated power (Average):	10 kW 10.0 dBk			
Elevation of site above mean sea level:	414.5 meters			
Overall height of the tower above ground:	192.7 meters			
Height of radiation center above ground (meters):	187 meters			
Height of radiation center above mean sea level (meters):	601.5 meters			
Height of radiation center above average terrain (meters):	240 meters			
Antenna Structure Registration Number:	1034466			

Response to questions listed on the FCC Form 301, Section III-D-DTV

Engineering

Question 1. (a)

WDTV will operate its DTV operation on Channel 5 as established in 47 C.F.R. Section 73.622.

Question 1. (d)

WDTV is proposing to modify its CP to operate from an existing antenna site which is currently used by TV station WVFX. The proposed noise limited contour would extend, in certain directions, beyond the facilities established in Appendix B of the Seventh Report and Order (MB Docket No. 87-268). However, an interference study conducted (see attached Table I) according to the FCC OET Bulletin 69 indicates the

proposed WDTV-DT operation would not cause any interference to other DTV stations exceeding the Commission's guidelines.

Question 1. (e)

The proposed DTV operation would serve 858,430 people within the noise limited service area as compared to 640,000 predicted population defined in the new DTV Table in Appendix B. As such, WDTV-DT proposed noise limited contour would serve 218,430 more people than listed in the new DTV Table in Appendix B.

Question 2.

The attached environmental statement demonstrates that there will not be any significant environmental impact from the proposed DTV operation in accordance with 47 C.F.R. Section 73.1307.

Question 3.

The attached map shows the proposed WDTV-DT contour will encompass the allotted principal community of Weston, West Virginia (see Figure 1).

Question 4.

The proposed WDTV-DT facility complies with Section 73.1030 of the Commission's rules; therefore, notification to radio astronomy installations, radio receiving installations and FCC monitoring stations is not required.

Question 5.

The existing WDTV-DT tower is registered (ASR No. 1034466) by the Commission and no changes are proposed to require a change in the registration.

Table I

Percent allowed new interference: 0.500
 Percent allowed new interference to Class A: 0.500
 TW Census data selected 2000
 Post Transition Data Base Selected /space/software/cdb/pt_tvdb.sff

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 06-11-2008 Time: 16:01:15

Record Selected for Analysis

WDTV USERRECORD-01 WESTON WV US
 Channel 05 ERP 10. kW HAAT 241. m RCAMSL 00602 m
 Latitude 039-18-02 Longitude 0080-20-37
 Status APP Zone 1 Border
 Last update Cutoff date Docket
 Comments
 Applicant

Cell Size for Service Analysis 1.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	28.0 dBu F(50,90) (km)
0.0	10.000	260.4	103.8
45.0	10.000	239.5	101.8
90.0	10.000	232.5	101.1
135.0	10.000	240.6	101.9
180.0	10.000	222.6	100.1
225.0	10.000	246.2	102.4
270.0	10.000	229.1	100.7
315.0	10.000	253.7	103.1

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

WDTV 05 WESTON WV USERRECORD01

and station

SHORT TO: WDTV 05 WESTON WV BLCT 1745
 039-04-27 0080-25-28
 Req. separation 244.6 Actual separation 26.1 Short 218.5 km

SHORT TO: WDTV 05 WESTON WV DTVPLN DTVP0031
 39 -04-29 80 -25-28

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Req. separation 244.6 Actual separation 26.0 Short 218.6 km

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is within the Canadian coordination distance
Distance to border = 317.1km

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
05	WDTV	WESTON WV	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
05	WLMB	TOLEDO OH	412.5	LIC	BLCDT	-20050201AAF
05	WLMB	TOLEDO OH	412.5	PLN	DTVPLN	-DTVP0024
05	W05BG	WILLIAMSPORT PA	357.7	LIC	BLTVL	-19880602IG
05	WCYB-TV	BRISTOL VA	352.7	PLN	DTVPLN	-DTVP0030

Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
05	WLMB	TOLEDO OH	BLCDT	-20050201AAF

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
05	WGVK	KALAMAZOO MI	149.0	LIC	BLEDT	-20060703ABQ
05	WGVK	KALAMAZOO MI	149.0	PLN	DTVPLN	-DTVP0021
05	WDTV	WESTON WV	424.9	PLN	DTVPLN	-DTVP0031
05	WDTV	WESTON WV	412.5	APP	USERRECORD-01	

Proposal causes no interference

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Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
05	WLMB	TOLEDO OH	DTVPLN	-DTVP0024

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
05	WGVK	KALAMAZOO MI	149.0	LIC	BLEDT	-20060703ABQ
05	WGVK	KALAMAZOO MI	149.0	PLN	DTVPLN	-DTVP0021
05	WDTV	WESTON WV	424.9	PLN	DTVPLN	-DTVP0031
05	WDTV	WESTON WV	412.5	APP	USERRECORD-01	

Proposal causes no interference

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Analysis of Interference to Affected Station 3

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
05	W05BG	WILLIAMSPORT PA	BLTVL	-19880602IG

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
05	WTTG	WASHINGTON DC	251.7	CP	BPCT	-20060519ACI
05	WNYW	NEW YORK NY	254.7	APP	BPCT	-20040304ACO
05	WNYW	NEW YORK NY	254.7	APP	BSTA	-20070406ABJ
05	WNYW	NEW YORK NY	253.4	LIC	BLCT	-19800328KE
05	WTVH	SYRACUSE NY	205.3	CP	BPCT	-20030903AAJ
05	WDTV	WESTON WV	378.9	LIC	BLCT	-1745
05	WDTV	WESTON WV	378.8	PLN	DTVPLN	-DTVP0031
05	WDTV	WESTON WV	357.7	APP	USERRECORD	-01

Proposal causes no interference

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Analysis of Interference to Affected Station 4

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
05	WCYB-TV	BRISTOL VA	DTVPLN	-DTVP0030

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
05	WTVF	NASHVILLE TN	419.3	PLN	DTVPLN	-DTVP0028
05	WDTV	WESTON WV	327.2	PLN	DTVPLN	-DTVP0031
05	WDTV	WESTON WV	352.7	APP	USERRECORD	-01

Total scenarios = 1

Result key: 1
 Scenario 1 Affected station 4
 Before Analysis

Results for: 5A VA BRISTOL DTVPLN DTVP0030 PLN
 HAAT 680.0 m, ATV ERP 8.9 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2215295	52662.7
not affected by terrain losses	1938744	46873.5
lost to NTSC IX	0	0.0
lost to additional IX by ATV	6829	266.9
lost to ATV IX only	6829	266.9
lost to all IX	6829	266.9

Potential Interfering Stations Included in above Scenario 1

5A TN NASHVILLE	DTVPLN	DTVP0028	PLN
5A WV WESTON	DTVPLN	DTVP0031	PLN

After Analysis

Results for: 5A VA BRISTOL DTVPLN DTVP0030 PLN
 HAAT 680.0 m, ATV ERP 8.9 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2215295	52662.7
not affected by terrain losses	1938744	46873.5
lost to NTSC IX	0	0.0
lost to additional IX by ATV	8336	239.4

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lost to ATV IX only 8336 239.4
lost to all IX 8336 239.4

Potential Interfering Stations Included in above Scenario 1

5A TN NASHVILLE DTVPLN DTVP0028 PLN
5A WV WESTON USERRECORD01 APP

Percent new IX = 0.0780%

Worst case new IX 0.0780% Scenario 1

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Analysis of Interference to Affected Station 5

Analysis of current record

Channel	Call	City/State	Application Ref. No.
05	WDTV	WESTON WV	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
05	WLMB	TOLEDO OH	412.5	LIC	BLCDT -20050201AAF
05	WLMB	TOLEDO OH	412.5	PLN	DTVPLN -DTVP0024
05	WCYB-TV	BRISTOL VA	352.7	PLN	DTVPLN -DTVP0030

Total scenarios = 1

Result key: 2
Scenario 1 Affected station 5
Before Analysis

Results for: 5A WV WESTON USERRECORD01 APP
HAAT 241.0 m, ATV ERP 10.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	967355	32589.3
not affected by terrain losses	859642	30662.5
lost to NTSC IX	0	0.0
lost to additional IX by ATV	1212	65.4
lost to ATV IX only	1212	65.4
lost to all IX	1212	65.4

Potential Interfering Stations Included in above Scenario 1

5A VA BRISTOL DTVPLN DTVP0030 PLN

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ENVIRONMENTAL PROTECTION ACT

Since WDTV-DT will be using a licensed tower (ASR No. 1034466), for the DTV operation the environmental concerns listed in Section 1.1307(a) of the Commission's rules are not pertinent; therefore, those issues have not been addressed.

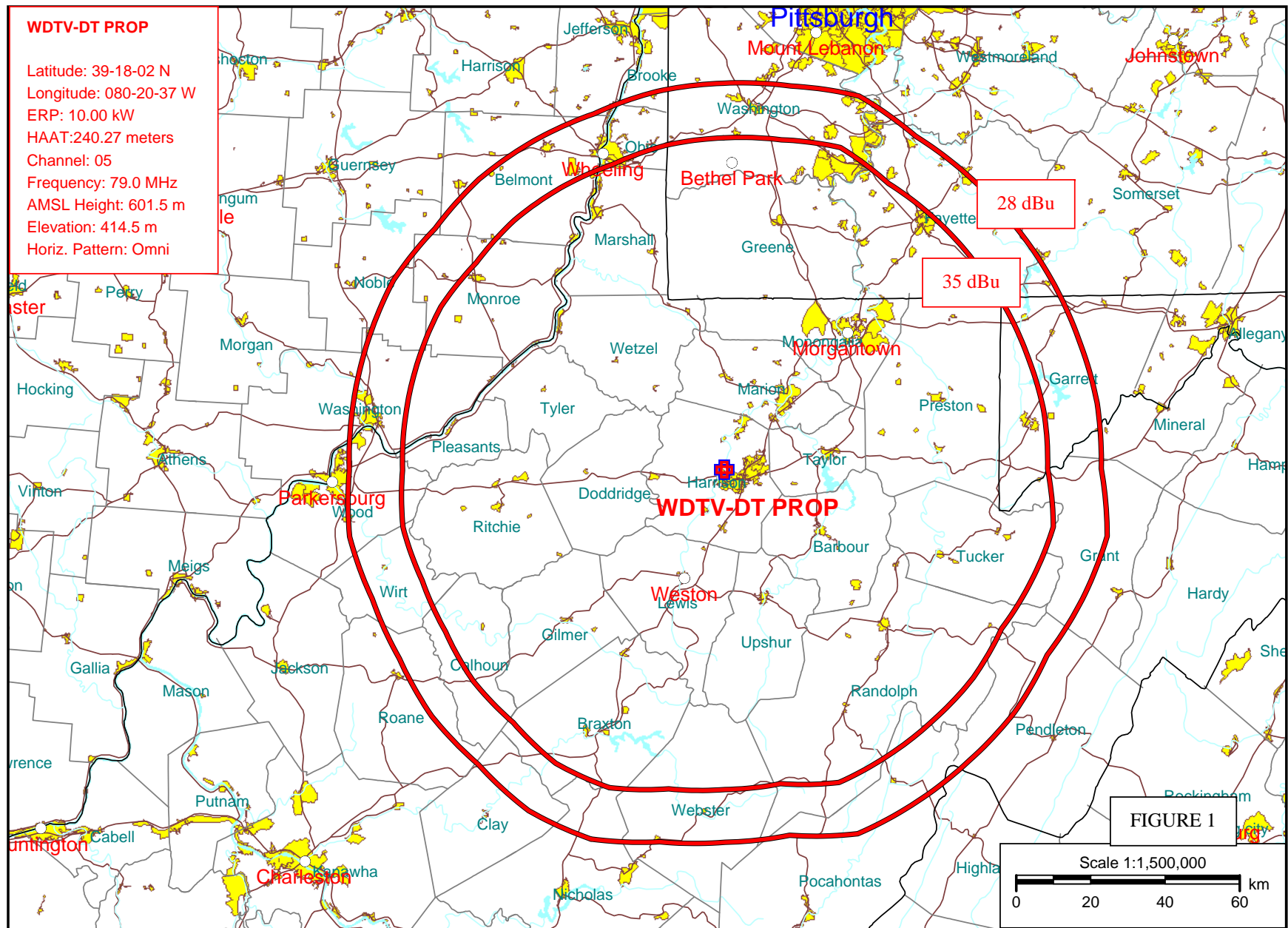
An evaluation has been made to determine compliance with the Commission's specified standards for human exposure to RF fields as set forth in the OET Bulletin No. 65 dated August 1997. For a maximum effective radiated power of 10 kW and a radiation center of 187 meters above ground level, the proposed Channel 5 DTV operation would have a maximum of 2.4 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$) RF field at 2 meters above the base of tower assuming an antenna field factor of 0.5 in the downward direction.

Since WVFX-DT is also located on the tower, an evaluation has been made to determine the WVFX-DT RF signal level at the base of the tower. WVFX-DT has a CP to operate on Channel 10 with 30 kW ERP and 235 meters HAAT. Its antenna radiation center is located 181 meters above ground. For a maximum effective radiated power of 30 kW and a radiation center of 181 meters above ground level, WVFX-DT Channel 10 DTV operation would have a maximum of 7.8 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$) RF field at 2 meters above the base of tower assuming an antenna field factor of 0.5 in the downward direction.

The Commission's guidelines for Channels 5 and 10 TV are $1,000 \mu\text{W}/\text{cm}^2$ for the occupational/controlled, and $200 \mu\text{W}/\text{cm}^2$ for the general population/uncontrolled environment.

The above analysis indicates that members of the public and personnel working around the WDTV-DT tower would not be exposed to RF fields exceeding the Commission's guidelines. With respect to work performed on the tower, WDTV-DT will establish procedures, in coordination with WVFX-DT, to ensure that workers are not exposed to RF fields above the Commission's guidelines, by reducing or turning off the power, as appropriate.

For the reasons stated above, it is believed this proposal complies with Section 1.1307(a) and (b) of the Commission's Rules; therefore, under Section 1.1306, it is categorically excluded from environmental processing.



COMPUTED NOISE LIMITED CONTOURS FOR THE PROPOSED OPERATION OF WDTV-DT, WESTON, WV