

ENGINEERING EXHIBIT  
REQUEST FOR SPECIAL TEMPORARY AUTHORITY (STA)  
DTV STATION WVLR-DT  
TAZEWELL, TENNESSEE  
CH. 48 193 kW (MAX-DA) 430 M

This Engineering Statement was prepared on behalf of Volunteer Christian Television, Inc. concerning a request for STA for TV station WVLR to cease operation of its licensed analog facility early and to operate with its authorized post transition DTV authorization (BPCDT-20080328AFF) before February 19, 2009. TV station WVLR-TV is licensed for analog operation on channel 48 with a maximum directional effective radiated power (ERP) of 5000 kilowatts and an antenna radiation center height above average terrain (HAAT) of 431 meters. Station WVLR-DT does not have a paired DTV channel but will operate post transition on its current channel 48. The post transition authorization is for operation with a maximum directional ERP of 193 kilowatts and an HAAT of 430 meters.

A pre-transition interference analysis was conducted for the WVLR-DT authorized post transition facility to determine if it would cause prohibited interference to any pertinent pre-transition facilities. The interference analysis was conducted employing a grid cell size of 2 kilometers, a terrain increment of 1 kilometer, and 1990 U.S. Census. Results of the interference analysis show that the proposed digital STA operation would not cause prohibited interference to any pertinent NTSC, DTV, or Class A facilities. Figure 1 is a tabulation of the predicted interference to other stations.

The details and specifications of the proposed operation are summarized in the table below:

Parameter	Proposed
Call Sign	WVLR-DT
Channel	48
City of License	Tazewell, TN
Facility ID	81750
FCC ASRN	1220006
Geographic coordinates (NAD27)	36-15-30 N 83-37-43 W
Site elevation	743.7 m AMSL
Overall structure height AGL (with all appurtenances)	93.9 m
Antenna radiation center height AGL	85.3 m
Antenna radiation center height AMSL	829 m
Antenna radiation center HAAT	430 m
Antenna, make and model	AND, ATW27HS4-HTC-48H
Antenna type	Directional, horizontally-polarized
Antenna ID	85723
Major lobe orientation	0° T
Electrical beam tilt	1°
Mechanical beam tilt	Not Applicable
Maximum horizontally-polarized ERP	193 kW (22.9 dBk)
Maximum vertically-polarized ERP	Not Applicable

Figure 2 is a map showing the FCC Predicted 64 dBu (Grade B) contour for the WVLR-TV licensed analog operation and also the FCC Predicted 41 dBu (Noise Limited

Contour) for the proposed digital STA facility. As shown in Figure 2, the proposed STA facility will more than replicate the analog coverage. Below is a tabulation of the interference free service population within the licensed analog and the proposed digital operation.

Facility	Interference Free Service Population (1990 Census)
WVLR-TV Tazewell, TN Ch. 48 5000 kW (DA) 431 m Licensed Analog Operation	830,087
WVLR-DT Tazewell, TN Ch. 48 193 kW (DA) 430 m Proposed Digital STA Operation	891,456

As shown in Figure 1 and in the above table, the proposed STA facility will not cause prohibited interference to any pre-transition NTSC, DTV, or Class A facilities, and the proposed facility will provide interference free service to an additional 61,369 persons. If there are questions concerning the technical portion of this application, please contact the office of the undersigned.



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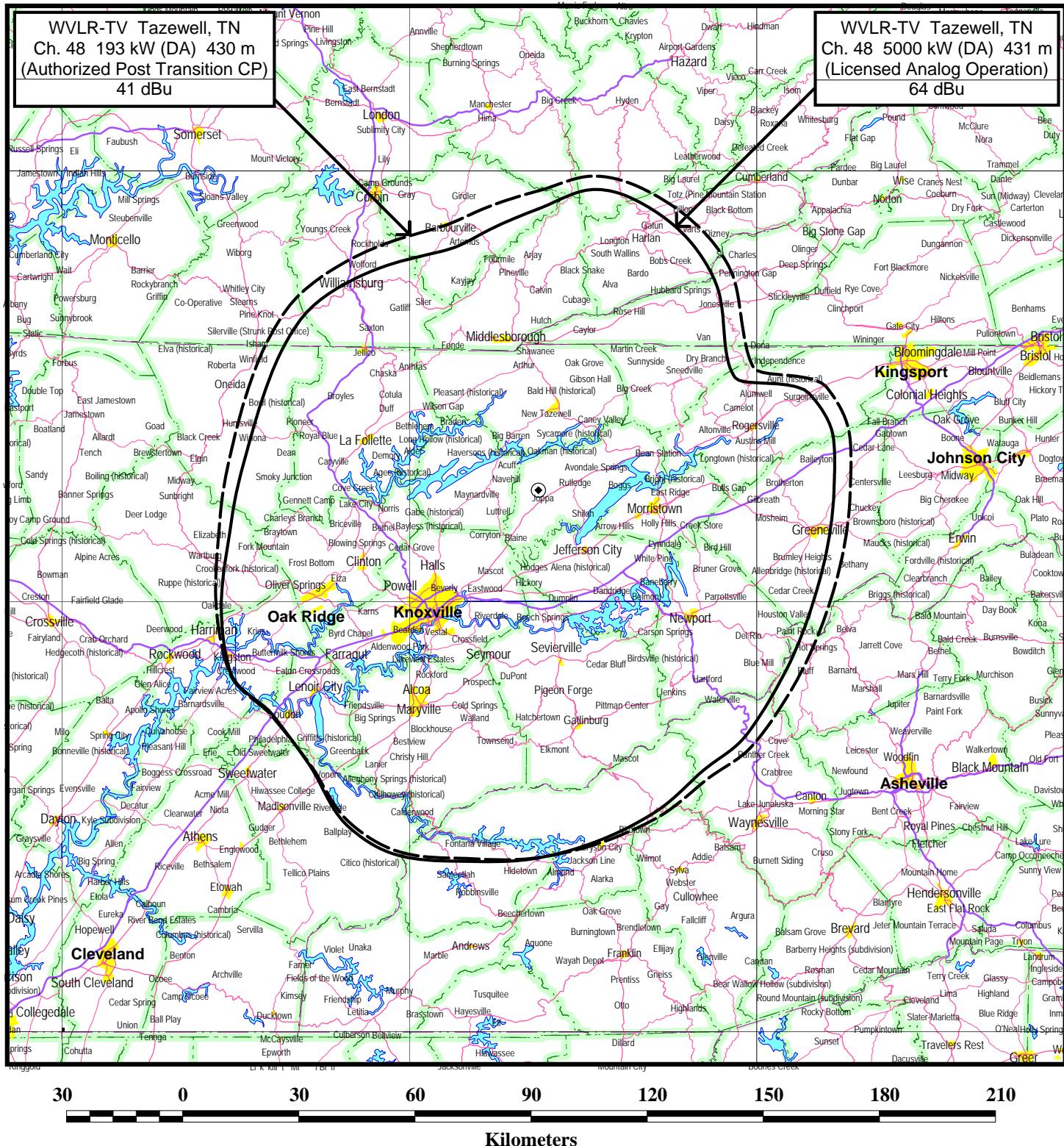
Figure 1

## OET-69 Interference Results

Channel	Callsign	Application Reference Number	Status	City	State	Baseline	Net Change	Percentage
33	WUNF-TV	BLET-19980316KE	LIC	ASHEVILLE	NC		No Interference	
44	WAGV	BLCT-19990812KE	LIC	HARLAN	KY	716,531	-4,203	-0.59
44	WAGV	BMPCT-19961022KF	APP	HARLAN	KY	570,901	-7,656	-1.34
47	WDEF-DT	DTVPLN-DTVP1373	PLN	CHATTANOOGA	TN		No Interference	
47	WSBN-TV	BLET-284	LIC	NORTON	VA		No Interference	
48	WAFF	BLCT-19800724KI	LIC	HUNTSVILLE	AL	860,229	-211	-0.02
48	WUVG-TV	BLCDT-20030805AJO	LIC	ATHENS	GA	3,053,718	529	0.02
48	WNMG-DT	DTVPLN-DTVP1388	PLN	ATHENS	GA		No Interference	
48	WTTV	BMPCDT-20080619AKO	APP	BLOOMINGTON	IN		No Interference	
48	WTTV-DR	BPRM-20030820AEO	LIC	BLOOMINGTON	IN		No Interference	
48	WTTV	BPCDT-20060707AFA	CP	BLOOMINGTON	IN		No Interference	
48	WTTV	BLCDT-20060630ACD	LIC	BLOOMINGTON	IN		No Interference	
48	WKGB-DT	DTVPLN-DTVP1392	PLN	BOWLING GREEN	KY		No Interference	
48	960722KL	BPCT-19960722KL	APP	OWENSBORO	KY		No Interference	
48	WMYV	BLCT-20020607ABJ	LIC	GREENSBORO	NC		No Interference	
48	WCET	BLET-19740227KG	LIC	CINCINNATI	OH		No Interference	
48	WACH	BLCDT-20021204ABB	LIC	COLUMBIA	SC		No Interference	
48	WACH-DT	DTVPLN-DTVP1400	PLN	COLUMBIA	SC		No Interference	
48	WVSX-DT	DTVPLN-DTVP1407	PLN	LEWISBURG	WV		No Interference	
49	WLFG-DT	DTVPLN -DTVP1433	PLN	GRUNDY	VA		No Interference	
49	WLFG	BPCDT-19991029AGK	CP	GRUNDY	VA	611,644	137	0.02
56	NEW	BPET-19960919KV	APP	FRANKLIN	NC		No Interference	

It is noted that negative values in the table indicate that the proposed digital STA facility would cause less interference than WVLR-TV's currently licensed analog operation.

Figure 2



## FCC PREDICTED COVERAGE CONTOURS

DTV STATION WVLR-DT  
TAZEWELL, TENNESSEE  
CH 48 193 KW (DA) 430 M

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