

TECHNICAL EXHIBIT  
APPLICATION FOR DTV CONSTRUCTION PERMIT  
IN SUPPORT OF ITS POST-TRANSITION FACILITY  
STATION WIS-DT (FACILITY ID 13990)  
COLUMBIA, SOUTH CAROLINA

APRIL 3, 2008

CH 10 9.2 KW 479 M

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Technical Narrative {Up To 5-Mile Waiver Request}

This Technical Exhibit supports an application for digital television (DTV) station WIS-DT for its final DTV operation at Columbia, South Carolina. This application requests a construction permit (CP) for a digital television operation on channel 10, using its licensed analog, non-directional antenna.

Proposed Facilities

Station WIS-DT proposes to operate DTV channel 10, with a non-directional antenna effective radiated power (ERP) of 9.2 kilowatts and antenna height above average terrain (HAAT) of 479 meters. The transmitter site coordinates are:

34° 07' 29" North Latitude  
80° 45' 23" West Longitude

A sketch of antenna and pertinent elevations are included as Figure 1. The antenna structure registration number is 1042916. Figure 2 depicts the installed antenna elevation pattern.

Figure 3 is a map showing the DTV predicted coverage contours as well as the associated analog Grade B and Appendix B allotment coverage contours. For each noise-limited contour, the 36 dBu contour was used, as well as 360-radials and a 3-second digitized terrain database. A 5-mile buffer has been added to the Appendix B allotment coverage contour. The extent of the proposed 9.2 kW contour has been calculated using the normal FCC prediction method. The predicted 36 dBu contour will not extend beyond the 5-mile buffer at any location.

The proposed 43 dBu contour will encompass all of Columbia. The Columbia city limits were derived from information contained in the 2000 U.S. Census of Population and Housing.

#### Population Served

The herein proposed WIS-DT facility is predicted to serve 1,519,036 persons, post-transition, based upon the 2000 Census. WIS-DT's associated Appendix B facility is predicted to serve 1,450,434 persons. Therefore, the herein proposed WIS-DT facility would serve more than 100% of WIS-DT's Appendix B population.

#### Allocation Considerations

Since the proposed WIS-DT ERP exceeds the Commission's *Appendix B* allocated maximum effective radiated power in some azimuthal directions<sup>1</sup>, a waiver of the current freeze on filing DTV maximization applications is hereby requested. The proposed facilities would (1) create a contour that does not extend more than 5 miles in any direction beyond the Appendix B contour; (2) not create more than 0.5% new interference to any other station; and (3) would allow WIS-DT to use its licensed analog antenna to avoid a significant reduction in post-transition service from its analog service area.

In support of this waiver request, an allocation study was completed to ensure no prohibited interference would occur. The proposed WIS-DT operation meets the FCC's post-transition interference standards to pertinent Class A and DTV allotments using the procedures outlined in the FCC's OET-69 Bulletin and a 2 kilometer grid cell size. The results of the interference analyses are summarized in Figure 4.

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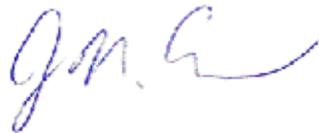
<sup>1</sup> See Seventh Report And Order And Eighth Further Notice Of Proposed Rule Making in the Matter of Advanced Television Systems and their Impact Upon the Existing Television Broadcast Service, MB Docket 87-268, Released August 6, 2007; Adopted August 1, 2007.

Radiofrequency Electromagnetic Field Exposure

The proposed WIS-DT facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed DTV antenna is located 454 meters above ground level with an ERP of 9.2 kW. A conservative relative field value of 0.3 was assumed for the calculation (see Figure 2). The calculated power density at a point 2 meters above ground level will not exceed  $0.0001 \text{ mW/cm}^2$ . This is less than 5% of the FCC's recommended limit of  $0.2 \text{ mW/cm}^2$  for channel 10 for an "uncontrolled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the station is at reduced power or shut down. The proposed WIS-DT operation appears to be otherwise categorically excluded from environmental processing.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner.



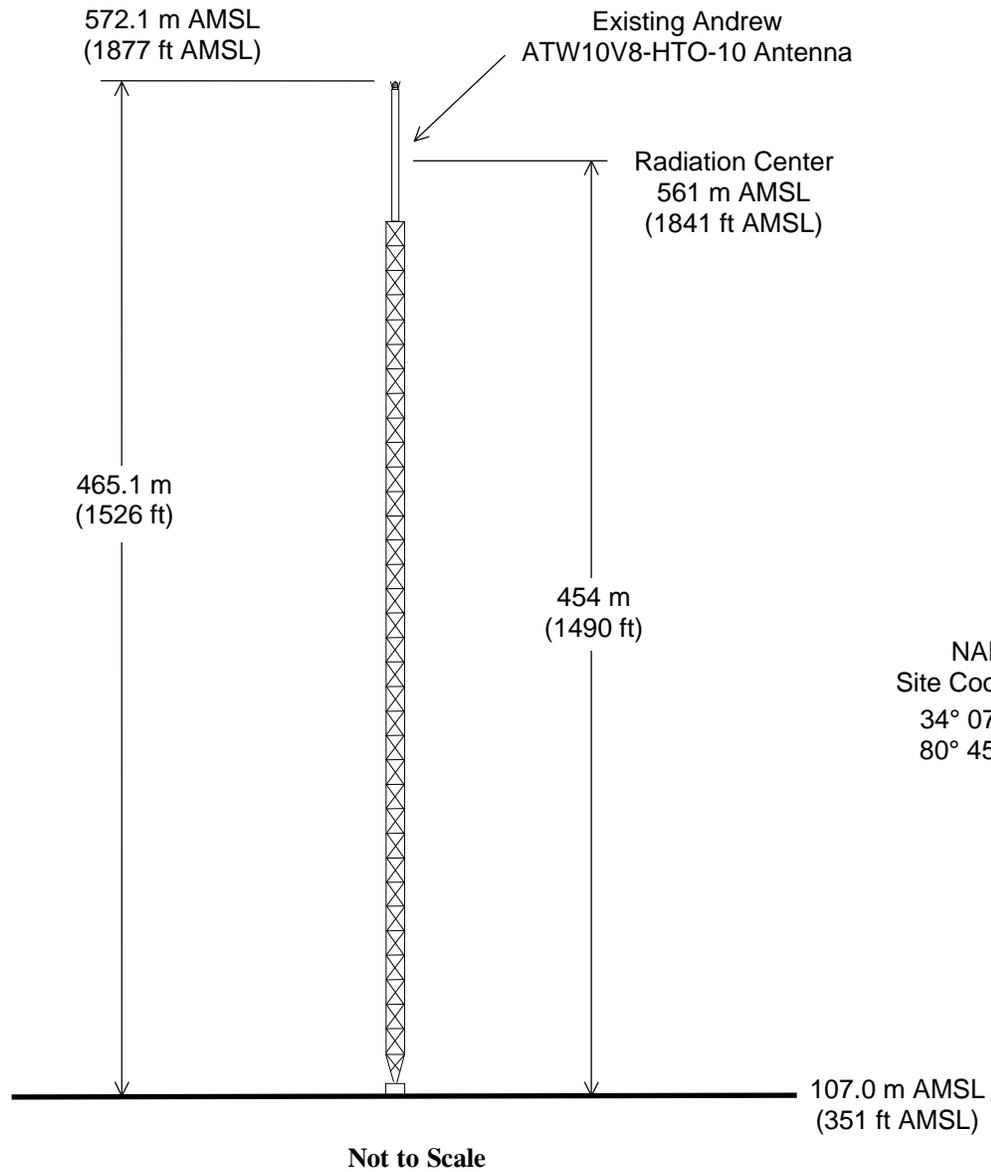
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April 3, 2008



Registration No. 1042916



## ANTENNA AND SUPPORTING STRUCTURE

STATION WIS-DT  
COLUMBIA, SOUTH CAROLINA  
CH 10 9.2 KW 479 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

**ANDREW** Figure 2  
**ELEVATION PATTERN**

Type:	AQDP5V4H-10	
Directivity:	Numeric	dBd
Main Lobe:	10.00	(10.00)
Horizontal:	9.20	(9.64)
Beam Tilt:	1.00	
Polarization:	Horizontal	
Channel:	10	
Location:	Columbia, SC	

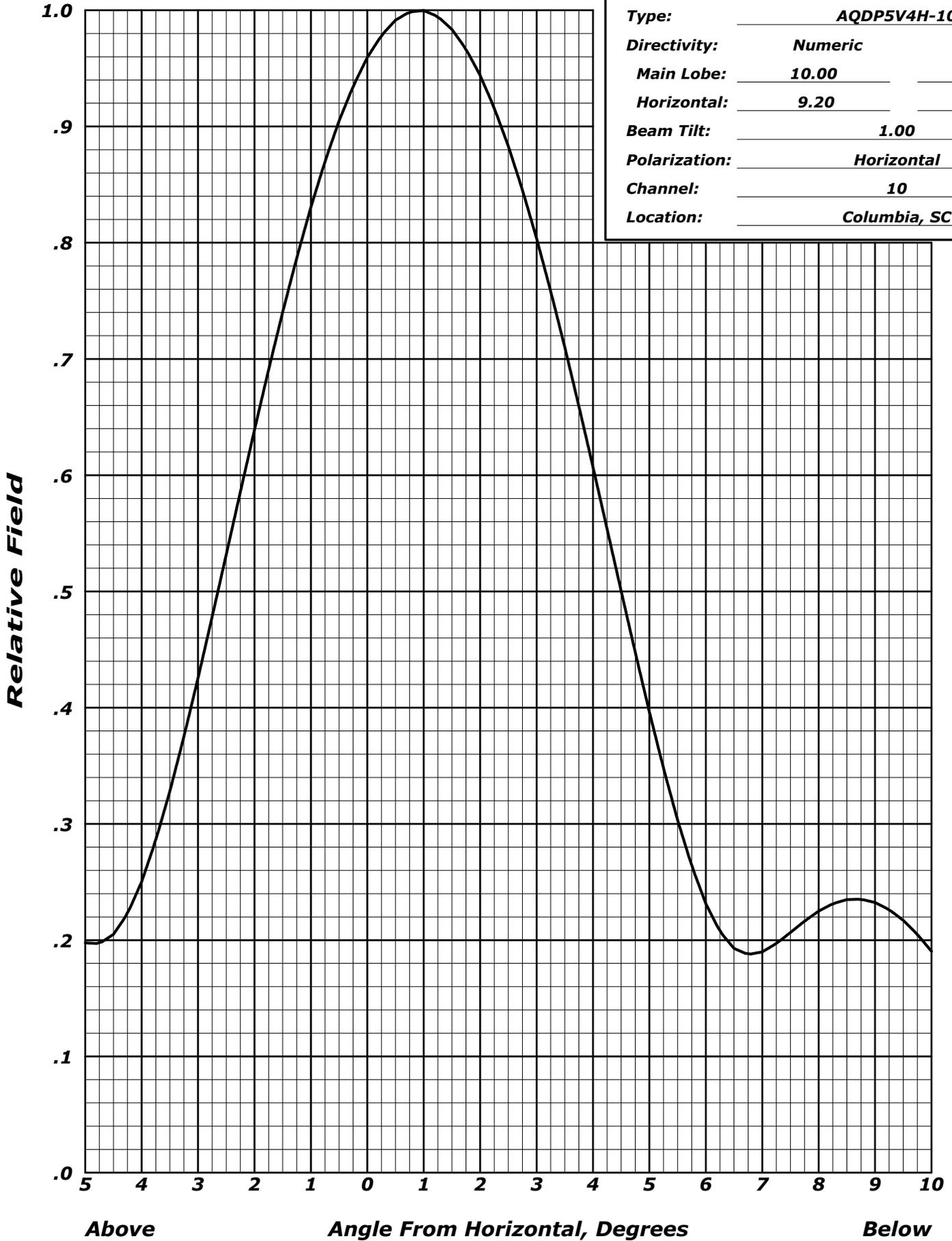
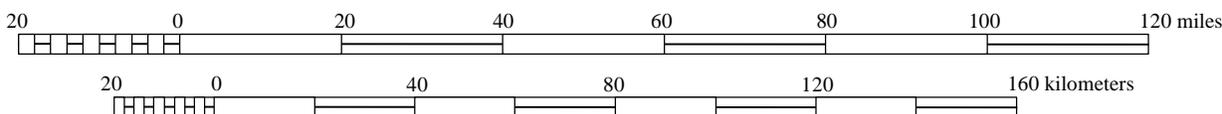
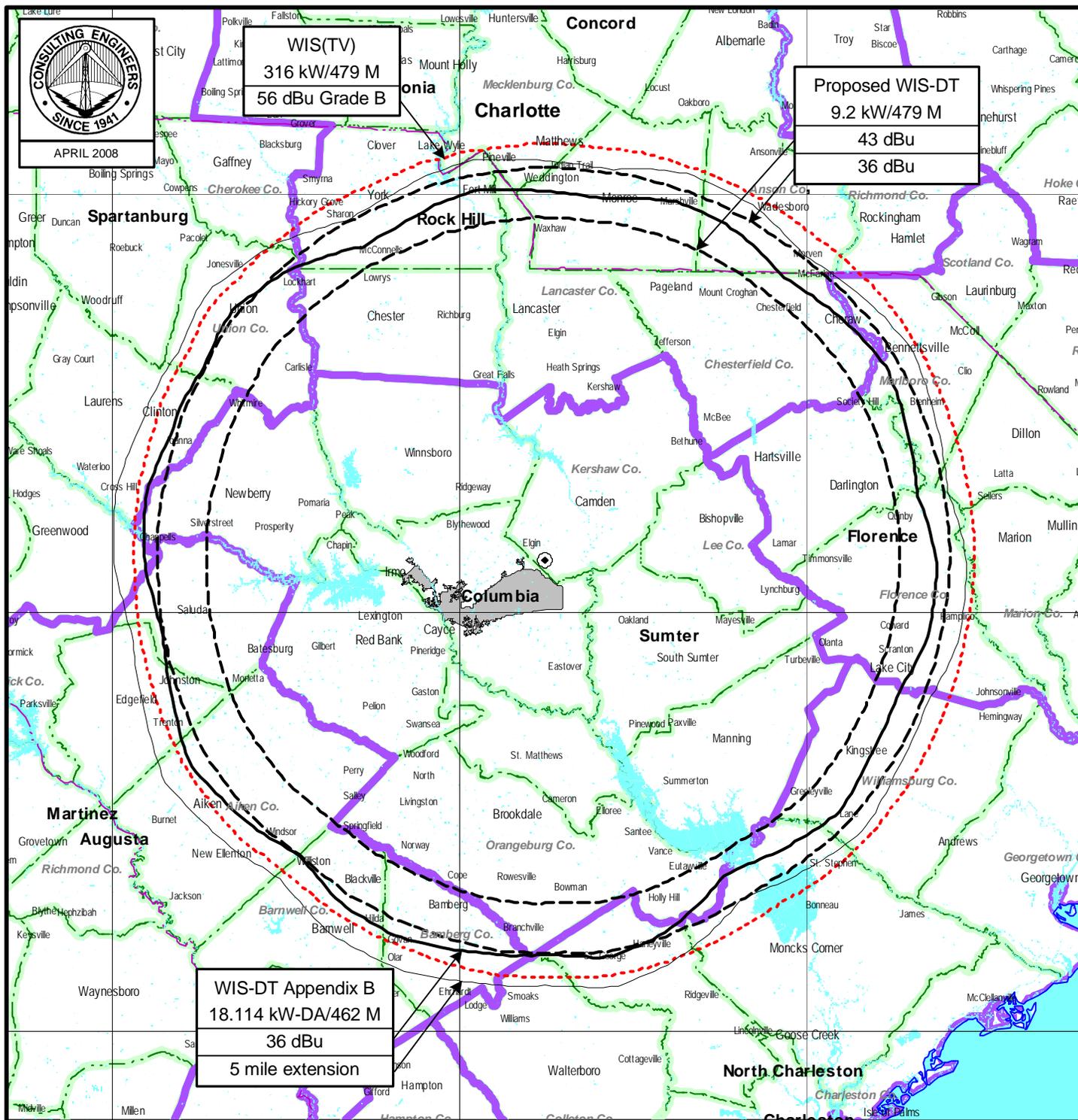


Figure 3



**PREDICTED COVERAGE CONTOURS**  
**STATION WIS-DT**  
**COLUMBIA, SOUTH CAROLINA**  
**CH 10 9.2 kW 479**

du Treil, Lundin & Rackley, Inc Sarasota, Florida



Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
09	WHMC	CONWAY SC	BMPEdT	-20031003ACG

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
08	WGHP	HIGH POINT NC	217.6	CP	BFRcCT	-20050815ABT
08	WOLO-TV	COLUMBIA SC	153.6	LIC	BLCDT	-20021106AAU
09	WVANTV	SAVANNAH GA	307.9	LIC	BLEt	-85
09	WSKY-TV	MANTEO NC	392.0	CP	BPCDT	-20040427ABM
09	WNTV	GREENVILLE SC	322.1	CP MOD	BMPEdT	-20031114AER
10	WNCT-TV	GREENVILLE NC	222.1	CP MOD	BMPCDT	-20040730ARH
10	WIS	COLUMBIA SC	153.0	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.
09	WNTV	GREENVILLE SC	BMPEdT	-20031114AER

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
08	WGTV	ATHENS GA	203.1	CP	BPRM	-20010226ABP
08	WOLO-TV	COLUMBIA SC	176.5	LIC	BLCDT	-20021106AAU
09	WJSU-TV	ANNISTON AL	396.8	CP	BPRM	-20030127AEY
09	WTVM	COLUMBUS GA	364.3	CP	BFRcCT	-20050815ACC
09	WVANTV	SAVANNAH GA	319.2	LIC	BLEt	-85
09	WHMC	CONWAY SC	322.1	CP MOD	BMPEdT	-20031003ACG
09	WTVC	CHATTANOOGA TN	265.6	CP	BDTV	-00000053
10	WXIA-TV	ATLANTA GA	220.1	LIC	BLCDT	-20040302AAO
10	WBIR-TV	KNOXVILLE TN	182.2	CP MOD	BMPCDT	-20020311AAA
10	WIS	COLUMBIA SC	176.6	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.
10	WALB	ALBANY GA	BMPCDT	-20041027AEG

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
09	960920WR	GAINESVILLE FL	225.8	CP	BPCT	-19960920WR
09	WPGX	PANAMA CITY FL	190.4	CP MOD	BMPCDT	-20041026AGL
09	WTVM	COLUMBUS GA	140.3	CP	BFRcCT	-20050815ACC
10	WBIQ	BIRMINGHAM AL	365.5	CP	BFRcET	-20050815ACO
10	WDIQ	DOZIER AL	241.2	CP	BPRM	-20000328AAJ
10	WJXX	ORANGE PARK FL	249.8	LIC	BLCDT	-20020419AAJ
10	WTSP	ST. PETERSBURG FL	365.5	LIC	BLCDT	-20000605AON
10	WXIA-TV	ATLANTA GA	273.2	LIC	BLCDT	-20040302AAO
10	WIS	COLUMBIA SC	425.1	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.  
10 WXIA-TV ATLANTA GA BLCDT -20040302AAO

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
09	WJSU-TV	ANNISTON AL	193.6	CP	BPRM	-20030127AEY
09	WTVM	COLUMBUS GA	164.7	CP	BFCCT	-20050815ACC
09	WNTV	GREENVILLE SC	220.1	CP MOD	BMPEDT	-20031114AER
09	WTVC	CHATTANOOGA TN	180.4	CP	BDTV	-00000053
10	WBIQ	BIRMINGHAM AL	231.1	CP	BFCET	-20050815ACO
10	WDIQ	DOZIER AL	311.6	CP	BPRM	-20000328AAJ
10	WALB	ALBANY GA	273.2	CP MOD	BMPCDT	-20041027AEG
10	WBIR-TV	KNOXVILLE TN	252.3	CP MOD	BMPCDT	-20020311AAA
10	WSMV-TV	NASHVILLE TN	351.4	CP	BDTV	-00000059
10	WIS	COLUMBIA SC	332.2	APP	USERRECORD-01	

Total scenarios = 1

Result key: 1  
Scenario 1 Affected station 4  
Before Analysis

Results for: 10A GA ATLANTA BLCDT 20040302AAO LIC

HAAT 303.0 m, ATV ERP 80.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	5006503	38412.5
not affected by terrain losses	4897607	35366.5
lost to NTSC IX	0	0.0
lost to additional IX by ATV	30074	735.4
lost to ATV IX only	30074	735.4
lost to all IX	30074	735.4

Potential Interfering Stations Included in above Scenario 1

10A AL BIRMINGHAM	BFCET	20050815ACO	CP
10A AL DOZIER	BPRM	20000328AAJ	CP
10A GA ALBANY	BMPCDT	20041027AEG	CP
10A SC COLUMBIA	BLCDT	20030210AAV	LIC
10A TN KNOXVILLE	BMPCDT	20020311AAA	CP
10A TN NASHVILLE	BDTV	00000059	CP

After Analysis

Results for: 10A GA ATLANTA BLCDT 20040302AAO LIC

HAAT 303.0 m, ATV ERP 80.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	5006503	38412.5
not affected by terrain losses	4897607	35366.5
lost to NTSC IX	0	0.0
lost to additional IX by ATV	29678	715.3
lost to ATV IX only	29678	715.3
lost to all IX	29678	715.3

Potential Interfering Stations Included in above Scenario 1

10A AL BIRMINGHAM	BFCET	20050815ACO	CP
10A AL DOZIER	BPRM	20000328AAJ	CP
10A GA ALBANY	BMPCDT	20041027AEG	CP
10A TN KNOXVILLE	BMPCDT	20020311AAA	CP
10A TN NASHVILLE	BDTV	00000059	CP
10A SC COLUMBIA	USERRECORD01		APP

Percent new IX = -0.0081%  
Worst case new IX -0.0081% Scenario 1

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Analysis of current record

Channel	Call	City/State	Application Ref. No.
10	WNCT-TV	GREENVILLE NC	BMPCDT -20040730ARH

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	WSKY-TV	MANTEO NC	170.5	CP	BPCDT -20040427ABM
09	WHMC	CONWAY SC	222.1	CP MOD	BMPEdT -20031003ACG
10	WSWPTV	GRANDVIEW WV	426.5	LIC	BLET -830831KF
11	WTVD	DURHAM NC	108.4	CP	BDTV -00000092
10	WIS	COLUMBIA SC	336.6	APP	USERRECORD-01

Total scenarios = 1

Result key: 2  
Scenario 1 Affected station 5  
Before Analysis

Results for: 10A NC GREENVILLE BMPCDT 20040730ARH CP  
HAAT 575.0 m, ATV ERP 35.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1644099	47331.5
not affected by terrain losses	1627981	47199.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	257887	1800.3
lost to ATV IX only	257887	1800.3
lost to all IX	257887	1800.3

Potential Interfering Stations Included in above Scenario 1

10A SC COLUMBIA	BLCDT	20030210AAV	LIC
11A NC DURHAM	BDTV	00000092	CP

After Analysis

Results for: 10A NC GREENVILLE BMPCDT 20040730ARH CP  
HAAT 575.0 m, ATV ERP 35.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1644099	47331.5
not affected by terrain losses	1627981	47199.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	257887	1800.3
lost to ATV IX only	257887	1800.3
lost to all IX	257887	1800.3

Potential Interfering Stations Included in above Scenario 1

11A NC DURHAM	BDTV	00000092	CP
10A SC COLUMBIA	USERRECORD01		APP

Percent new IX = 0.0000%  
Worst case new IX 0.0000% Scenario 1

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Analysis of Interference to Affected Station 6

Analysis of current record

Channel	Call	City/State	Application Ref. No.
10	WBIR-TV	KNOXVILLE TN	BMPCDT -20020311AAA

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	WNTV	GREENVILLE SC	182.2	CP MOD	BMPEdT -20031114AER
09	WTVC	CHATTANOOGA TN	155.6	CP	BDTV -00000053
10	WBIQ	BIRMINGHAM AL	383.1	CP	BFRcET -20050815AC0
10	WXIA-TV	ATLANTA GA	252.3	LIC	BLCDT -20040302AA0
10	WCPO-TV	CINCINNATI OH	350.4	CP	BDTV -00000060

10	WSMV-TV	NASHVILLE TN	263.0	CP	BDTV	-00000059
10	WSWPTV	GRANDVIEW WV	336.3	LIC	BLET	-830831KF
11	WJHL-TV	JOHNSON CITY TN	168.8	CP	BPCDT	-19991025ADN
10	WIS	COLUMBIA SC	357.3	APP	USERRECORD-01	

Total scenarios = 1

Result key: 3  
Scenario 1 Affected station 6  
Before Analysis

Results for: 10A TN KNOXVILLE BMPCDT 20020311AAA CP  
HAAT 530.0 m, ATV ERP 24.7 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1651797	42307.8
not affected by terrain losses	1441494	34750.4
lost to NTSC IX	0	0.0
lost to additional IX by ATV	45961	1805.1
lost to ATV IX only	45961	1805.1
lost to all IX	45961	1805.1

Potential Interfering Stations Included in above Scenario 1

9A TN CHATTANOOGA	BDTV	00000053	CP
10A GA ATLANTA	BLCDT	20040302AAO	LIC
10A OH CINCINNATI	BDTV	00000060	CP
10A SC COLUMBIA	BLCDT	20030210AAV	LIC
10A TN NASHVILLE	BDTV	00000059	CP
10A WV GRANDVIEW	BLET	830831KF	LIC
11A TN JOHNSON CITY	BPCDT	19991025ADN	CP

After Analysis

Results for: 10A TN KNOXVILLE BMPCDT 20020311AAA CP  
HAAT 530.0 m, ATV ERP 24.7 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1651797	42307.8
not affected by terrain losses	1441494	34750.4
lost to NTSC IX	0	0.0
lost to additional IX by ATV	45961	1805.1
lost to ATV IX only	45961	1805.1
lost to all IX	45961	1805.1

Potential Interfering Stations Included in above Scenario 1

9A TN CHATTANOOGA	BDTV	00000053	CP
10A GA ATLANTA	BLCDT	20040302AAO	LIC
10A OH CINCINNATI	BDTV	00000060	CP
10A TN NASHVILLE	BDTV	00000059	CP
10A WV GRANDVIEW	BLET	830831KF	LIC
11A TN JOHNSON CITY	BPCDT	19991025ADN	CP
10A SC COLUMBIA	USERRECORD01		APP

Percent new IX = 0.0000%  
Worst case new IX 0.0000% Scenario 1

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Analysis of Interference to Affected Station 7

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
10	WSWPTV	GRANDVIEW WV	BLET	-830831KF

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
10	WNCT-TV	GREENVILLE NC	426.5	CP MOD	BMPCDT	-20040730ARH
10	WCPO-TV	CINCINNATI OH	334.4	CP	BDTV	-00000060
10	WOIO	SHAKER HEIGHTS OH	392.7	LIC	BLCDT	-19991110AAR

10	WBIR-TV	KNOXVILLE TN	336.3	CP MOD	BMPCDT	-20020311AAA
10	WVFX	CLARKSBURG WV	165.9	CP MOD	BMPCDT	-20020930AAV
11	WJHL-TV	JOHNSON CITY TN	191.9	CP	BPCDT	-19991025ADN
11	WVPT	STAUNTON VA	149.7	LIC	BLEDT	-20021220ADX
10	WIS	COLUMBIA SC	419.7	APP	USERRECORD-01	

Proposed station is beyond the site to  
nearest cell evaluation distance

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Analysis of Interference to Affected Station 8

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
11	WTVI	CHARLOTTE NC	BMLEDT	-20030428AAT

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
11	WTOC-TV	SAVANNAH GA	364.4	LIC	BLCDDT	-20020501AAO
11	WTVD	DURHAM NC	200.3	CP	BDTV	-00000092
11	WJHL-TV	JOHNSON CITY TN	181.8	CP	BPCDT	-19991025ADN
11	WVPT	STAUNTON VA	342.7	LIC	BLEDT	-20021220ADX
10	WIS	COLUMBIA SC	129.3	APP	USERRECORD-01	

Total scenarios = 1

Result key: 4  
Scenario 1 Affected station 8  
Before Analysis

Results for: 11A NC CHARLOTTE BMLEDT 20030428AAT LIC  
HAAT 363.0 m, ATV ERP 2.2 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2287929	22886.7
not affected by terrain losses	2265436	22211.4
lost to NTSC IX	0	0.0
lost to additional IX by ATV	84929	1526.3
lost to ATV IX only	84929	1526.3
lost to all IX	84929	1526.3

Potential Interfering Stations Included in above Scenario 1

10A SC COLUMBIA	BLCDDT	20030210AAV	LIC
11A GA SAVANNAH	BLCDDT	20020501AAO	LIC
11A NC DURHAM	BDTV	00000092	CP
11A TN JOHNSON CITY	BPCDT	19991025ADN	CP
11A VA STAUNTON	BLEDT	20021220ADX	LIC

After Analysis

Results for: 11A NC CHARLOTTE BMLEDT 20030428AAT LIC  
HAAT 363.0 m, ATV ERP 2.2 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2287929	22886.7
not affected by terrain losses	2265436	22211.4
lost to NTSC IX	0	0.0
lost to additional IX by ATV	86664	1562.3
lost to ATV IX only	86664	1562.3
lost to all IX	86664	1562.3

Potential Interfering Stations Included in above Scenario 1

11A GA SAVANNAH	BLCDDT	20020501AAO	LIC
11A NC DURHAM	BDTV	00000092	CP
11A TN JOHNSON CITY	BPCDT	19991025ADN	CP
11A VA STAUNTON	BLEDT	20021220ADX	LIC
10A SC COLUMBIA	USERRECORD01		APP

Percent new IX = 0.0796%  
Worst case new IX 0.0796% Scenario 1

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Analysis of Interference to Affected Station 9

Analysis of current record

Channel	Call	City/State	Application Ref. No.
10	WIS	COLUMBIA SC	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	WHMC	CONWAY SC	153.0	CP MOD	BMPEDT -20031003ACG
09	WNTV	GREENVILLE SC	176.6	CP MOD	BMPEDT -20031114AER
10	WALB	ALBANY GA	425.1	CP MOD	BMPCDT -20041027AEG
10	WXIA-TV	ATLANTA GA	332.2	LIC	BLCDT -20040302AAO
10	WNCT-TV	GREENVILLE NC	336.6	CP MOD	BMPCDT -20040730ARH
10	WBIR-TV	KNOXVILLE TN	357.3	CP MOD	BMPCDT -20020311AAA
10	WSWPTV	GRANDVIEW WV	419.7	LIC	BLET -830831KF
11	WTVI	CHARLOTTE NC	129.3	LIC	BMLEDT -20030428AAT

Total scenarios = 1

Result key: 5  
Scenario 1 Affected station 9  
Before Analysis

Results for: 10A SC COLUMBIA USERRECORD01 APP

HAAT 481.0 m, ATV ERP 9.2 kW	POPULATION	AREA (sq km)
within Noise Limited Contour	1574576	34459.6
not affected by terrain losses	1562446	34075.5
lost to NTSC IX	0	0.0
lost to additional IX by ATV	43410	596.1
lost to ATV IX only	43410	596.1
lost to all IX	43410	596.1

Potential Interfering Stations Included in above Scenario 1

10A GA ATLANTA	BLCDT	20040302AAO	LIC
10A NC GREENVILLE	BMPCDT	20040730ARH	CP
10A TN KNOXVILLE	BMPCDT	20020311AAA	CP
11A NC CHARLOTTE	BMLEDT	20030428AAT	LIC

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