

ENGINEERING EXHIBIT

Incentive Auction Channel Reassignment

Application for Digital Television Station Construction Permit

prepared for

Thomas Broadcasting Company

WOAY-TV Oak Hill, WV

Facility ID 66804

Ch. 31 320 kW 210 m

Thomas Broadcasting Company (“Thomas”) is the licensee of digital television station WOAY-TV, Channel 50, Facility ID 66804, Oak Hill, WV. *Thomas* herein proposes construction of the WOAY-TV post-auction facility on Channel 31. Reassignment of WOAY-TV from Channel 50 to Channel 31 was specified in the *Incentive Auction Closing and Channel Reassignment Public Notice (“CCRPN”, DA 17-317, released April 13, 2017)*.

The existing Channel 50 facility employs a side-mount antenna near the top of the WOAY-TV tower. The proposed Channel 31 antenna will be installed at the top-mount position, in place of WOAY-TV’s former analog Channel 4 antenna.

The tower structure corresponds to FCC Antenna Structure Registration number 1053536, having an overall structure height above ground of 218.8 meters. The antenna replacement will result in a reduction in the structure’s overall height by 16.3 meters to 202.5 meters above ground level. Following construction, the FAA will be notified of the reduction in height and the FCC ASR will be modified accordingly.

Thomas proposes to operate WOAY-TV with an effective radiated power (“ERP”) of 320 kW at 210 meters antenna height above average terrain (“HAAT”). The proposed antenna is a horizontally polarized nondirectional Dielectric model TFU-31JTH-R O4.

A map is supplied as Figure 1 which depicts the standard predicted coverage contours. This map includes the location of Oak Hill, WOAY-TV's principal community. As demonstrated thereon, the proposed facility complies with §73.625(a)(1) as the entire principal community will be encompassed by the 48 dBμ contour.

The proposed noise limited service contour ("NLSC") extends beyond that of the *CCRPN* parameters of 418 kW ERP and 200 meters HAAT. The proposed antenna's radiation center elevation is 19.9 meters higher (above mean sea level)¹ than that specified in the *CCRPN*. The increase in antenna height and an offsetting downward adjustment in ERP (to 320 kW) result in variations in NLSC locations due to the impact of non-uniform terrain. Thus, the proposed Channel 31 NLSC cannot precisely match the *CCRPN* NLSC and some contour extension is necessary to minimize loss of contour coverage area.

Therefore, WOAY-TV qualifies under §73.3700(b)(ii)(A) for a contour extension due to the contour variations brought about by the antenna height resulting from the new channel assignment. The proposal complies with §73.3700(b)(ii) as described in the following.

Interference study per FCC OET Bulletin 69² shows that the proposal complies with the 0.5 percent limit of new interference caused to pertinent nearby post-auction full service and Class A television stations and reassignments as required by §73.616. The interference study output report is provided as Table 1. This satisfies §73.3700(b)(ii)(C) for the proposed NLSC extension.

The amount of NLSC extension does not exceed one percent in any direction. Figure 2 supplies a coverage contour comparison of the proposed WOAY-TV facility to the reassignment

¹The proposed WOAY-TV antenna HAAT is recalculated to be 210.1 meters, based on FCC 30 meter terrain data developed by OET.

²FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). This analysis employed the FCC's current "TVStudy" software with the default application processing template settings, 2 km cell size, and 1 km terrain increment. Comparisons of various results of this computer program (run on a Mac processor) to the FCC's implementation of TVStudy show excellent correlation.

facility's contour and a one percent extension distance of the reassignment facility's contour. Here, the contour level is adjusted with the dipole factor to match FCC application processing. Table 1's results also demonstrate that the proposed contour is within the baseline contour plus one percent. Therefore the proposed contour extension complies with §73.3700(b)(ii)(B).

The proposed WOAY-TV facility's terrain-limited population provides a 99.98 percent match of the *CCRPN* baseline facility, as detailed in the following table. The OET Bulletin 69 report summary in Table 1 also concludes that the proposed service area population is more than 95 percent of the baseline population.

Terrain Limited Population - Match of Reassignment		
Population Summary (2010 Census) OET Bulletin 69: TVStudy	Reassignment Parameters	Proposed
Within Noise Limited Contour	569,322	571,891
Not affected by terrain losses	430,875	430,783
Match of Reassignment	---	99.98%

One AM station is located within 3.2 kilometers of the site. WOAY(AM) (Facility ID 12550, 860 kHz, Oak Hill, WV) is co-located with WOAY-TV and utilizes the WOAY-TV tower structure as its nondirectional radiator. The installation of the proposed WOAY-TV facility will be coordinated with the WOAY(AM) operation. The WOAY(AM) antenna coupling components will be adjusted as needed following construction, and AM antenna impedance measurements will be conducted. *Thomas* recognizes its obligations pursuant to §1.30002 and will coordinate the proposed construction with WOAY(AM).

The nearest FCC monitoring station is 401 km distant at Laurel, MD. This exceeds by a large margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with "quiet" zones specified in §73.1030(a) and (b). The site location is beyond the border areas requiring international coordination.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10),

and considering 10 percent antenna relative field in downward elevations (pattern data shows less than 10 percent relative field at angles 10 to 90 degrees below the antenna), the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is $3.0 \mu\text{W}/\text{cm}^2$, which is 0.8 percent of the general population/uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

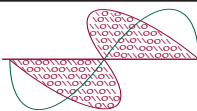
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field.

List of Attachments

Figure 1	Proposed Coverage Contours
Figure 2	Proposed Contour Expansion
Table 1	OET Bulletin 69 Interference Study
Form 2100	Saved Version of Engineering Sections from FCC Form at Time of Upload

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E.	July 5, 2017	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600

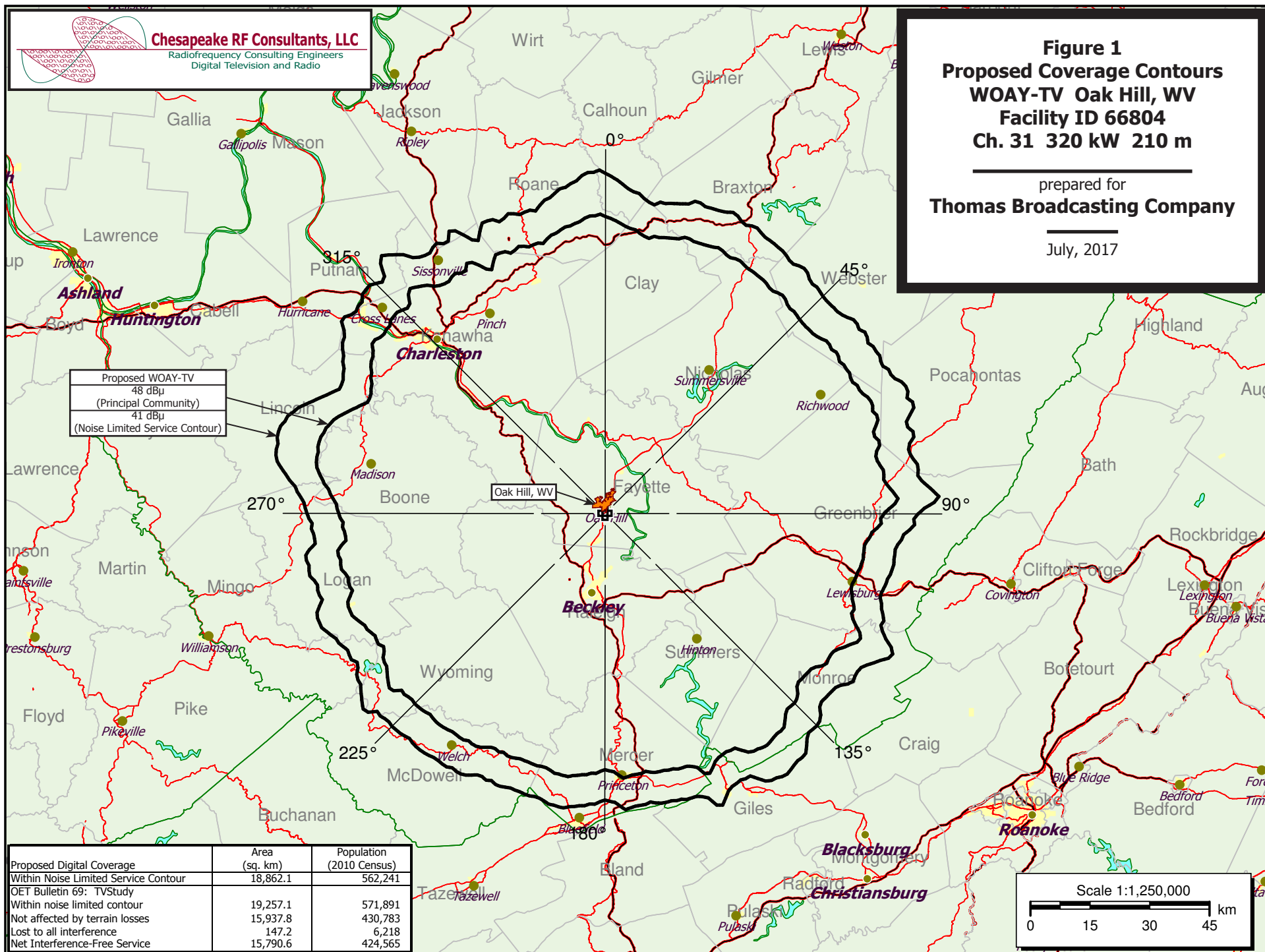


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Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 1
Proposed Coverage Contours
WOAY-TV Oak Hill, WV
Facility ID 66804
Ch. 31 320 kW 210 m

prepared for
Thomas Broadcasting Company

July, 2017





Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 2
Proposed Contour Expansion
WOAY-TV Oak Hill, WV
Facility ID 66804
Ch. 31 320 kW 210 m

prepared for
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July, 2017

WOAY-TV Reassignment
418 kW 200 m HAAT
40.42 dBu Contour
(Red - Solid)
40.42 dBu Distance plus 1%
(Red - Dashed)

Proposed WOAY-TV
40.42 dBu Contour
(Blue - Solid)

Contours plotted per FCC TVStudy
method utilizing 8 radials for HAAT

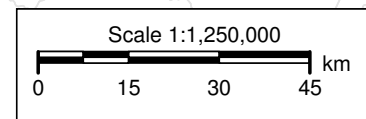


Table 1 WOAY-TV OET Bulletin 69 Interference Study
(page 1 of 5 - condensed to show first scenarios only)



tvstudy v2.2.2

Database: localhost, Study: WOAY-TV 320KW PROP, Model: Longley-Rice
Start: 2017.07.05 13:55:55

Study created: 2017.07.05 13:55:02

Study build station data: LMS TV 2017-07-03 LMSTV

Proposal: WOAY-TV D31 DT APP OAK HILL, WV
File number: WOAY-TV 320KW PROP
Facility ID: 66804
Station data: User record
Record ID: 760
Country: U.S.
Zone: I

Stations potentially affected:

Call	Chan	Svc	Status	City, State	File Number	Distance
WKMR	D30	DT	CP	MOREHEAD, KY	BLANK0000025308	198.8 km
WKMR	D30	DT	BL	MOREHEAD, KY	DTVBL34202	198.8
WHIZ-TV	D30	DT	CP	ZANESVILLE, OH	BLANK0000024560	230.7
WHIZ-TV	D30	DT	BL	ZANESVILLE, OH	DTVBL61216	230.7
WDBJ	D30	DT	BL	ROANOKE, VA	DTVBL71329	121.9
WMPT	D31	DT	APP	ANNAPOLIS, MD	BLANK0000025178	412.1
WMPT	D31	DT	BL	ANNAPOLIS, MD	DTVBL65942	412.1
WGHP	D31	DT	CP	HIGH POINT, NC	BLANK0000025059	265.2
WGHP	D31	DT	BL	HIGH POINT, NC	DTVBL72106	265.2
WDTN	D31	DT	BL	DAYTON, OH	DTVBL65690	332.6
WYTV	D31	DT	BL	YOUNGSTOWN, OH	DTVBL4693	347.9
WATM-TV	D31	DT	BL	ALTOONA, PA	DTVBL20287	372.1
WKTC	D31	DT	BL	SUMTER, SC	DTVBL40902	428.3
WBXX-TV	D31	DT	CP	CROSSVILLE, TN	BLANK0000025087	349.5
WBXX-TV	D31	DT	BL	CROSSVILLE, TN	DTVBL72971	349.5
WHRO-TV	D31	DT	BL	HAMPTON-NORFOLK, VA	DTVBL25932	429.8
WOUB-TV	D32	DT	CP	ATHENS, OH	BLANK0000025156	174.0
WOUB-TV	D32	DT	BL	ATHENS, OH	DTVBL50147	174.0
WKPT-TV	D32	DT	BL	KINGSPORT, TN	DTVBL27504	190.7
WCAV	D32	DT	CP	CHARLOTTESVILLE, VA	BLANK0000025088	233.9
WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	233.9

Non-directional AM stations within 0.8 km:

WOAY 860 L ND1 C OAK HILL, WV BL
WOAY 860 L ND1 D OAK HILL, WV BL
WOAY 860 L ND1 N OAK HILL, WV BL

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D31
Latitude: 37 57 26.00 N (NAD83)
Longitude: 81 9 2.00 W
Height AMSL: 801.7 m
HAAT: 210.1 m
Peak ERP: 320 kW
Antenna: Omnidirectional

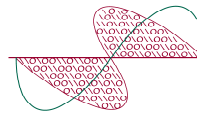
40.4 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	320 kW	287.1 m	85.8 km
45.0	320	211.0	78.2
90.0	320	226.9	79.4
135.0	320	184.8	76.2
180.0	320	143.6	72.9
225.0	320	189.8	76.6
270.0	320	179.6	75.8
315.0	320	258.0	81.9

Proposal service area is within baseline plus 1.0%
Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 426.9 km

Table 1 WOAY-TV OET Bulletin 69 Interference Study
(page 2 of 5 - condensed to show first scenarios only)



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Distance to Mexican border: 1991.1 km

Conditions at FCC monitoring station: Laurel MD
Bearing: 69.0 degrees Distance: 399.5 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 284.3 degrees Distance: 2085.8 km

Study cell size: 2.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

Interference to BLANK0000025308 CP, scenario 1
Proposal causes no interference.

Interference to DTVBL34202 BL, scenario 1
Proposal causes no interference.

Interference to BLANK0000024560 CP, scenario 1
Proposal causes no interference.

Interference to DTVBL61216 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL71329 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WDBJ	D30	DT	BL	ROANOKE, VA	DTVBL71329	
Undesireds:	WOAY-TV	D31	DT	BL	OAK HILL, WV	DTVBL66804	121.9 km
	WOAY-TV	D31	DT	APP	OAK HILL, WV	WOAY-TV 320KW PROP	121.9
	WXLV-TV	D29	DT	LIC	WINSTON-SALEM, NC	BLCDT20050624ABB	150.5
	WCHS-TV	D29	DT	BL	CHARLESTON, WV	DTVBL71280	204.2
	WKMR	D30	DT	CP	MOREHEAD, KY	BLANK0000025308	305.9
	WUNU	D30	DT	BL	LUMBERTON, NC	DTVBL69416	284.6
	WHIG-CD	D30	DC	BL	ROCKY MOUNT, NC	DTVBL168101	256.3
	WHIZ-TV	D30	DT	CP	ZANESVILLE, OH	BLANK0000024560	342.8
	WBYD-CD	D30	DC	BL	PITTSBURGH, PA	DTVBL68395	361.7
	WYFF	D30	DT	CP	GREENVILLE, SC	BLANK0000024627	319.3
	WAZT-CD	D30	DC	BL	WOODSTOCK, VA	DTVBL57905	284.7
	WGHP	D31	DT	CP	HIGH POINT, NC	BLANK0000025059	156.2

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
45776.6 1,607,006	39770.8 1,414,800	38826.7 1,376,247	38810.9 1,376,071	0.04 0.01

Undesired	Total IX	Unique IX, before	Unique IX, after
WOAY-TV D31 DT BL	154.5	4,253	111.0 4,138
WOAY-TV D31 DT APP	174.4	4,442	126.9 4,314
WXLV-TV D29 DT LIC	319.1	21,933	167.5 7,714
WCHS-TV D29 DT BL	27.7	109	0.0 0
WKMR D30 DT CP	59.8	375	39.9 257
WUNU D30 DT BL	259.2	11,296	79.7 2,457
WHIZ-TV D30 DT CP	55.4	247	23.7 116
WYFF D30 DT CP	414.8	20,340	195.4 5,954
WAZT-CD D30 DC BL	4.0	0	4.0 0
WGHP D31 DT CP	91.7	6,405	8.0 0

Interference to BLANK0000025178 APP, scenario 1
Proposal causes no interference.

Table 1 WOAY-TV OET Bulletin 69 Interference Study
(page 3 of 5 - condensed to show first scenarios only)



Interference to DTVBL65942 BL, scenario 1
Proposal causes no interference.

Interference to BLANK0000025059 CP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WGHP	D31	DT	CP	HIGH POINT, NC	BLANK0000025059	
Undesireds:	WOAY-TV	D31	DT	BL	OAK HILL, WV	DTVBL66804	265.3 km
	WOAY-TV	D31	DT	APP	OAK HILL, WV	WOAY-TV 320KW PROP	265.2
	WUNU	D30	DT	BL	LUMBERTON, NC	DTVBL69416	134.0
	WHIG-CD	D30	DC	BL	ROCKY MOUNT, NC	DTVBL168101	185.9
	WDBJ	D30	DT	BL	ROANOKE, VA	DTVBL71329	156.2
	WKTC	D31	DT	BL	SUMTER, SC	DTVBL40902	206.5
	WHRO-TV	D31	DT	BL	HAMPTON-NORFOLK, VA	DTVBL25932	318.8
	WAXN-TV	D32	DT	CP	KANNAPOLIS, NC	BLANK0000025121	100.9
	WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	151.9
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
33760.2		3,795,782		33258.0		3,762,150	32221.1 3,579,085 0.00 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
WOAY-TV D31 DT BL		4.0		1,056		0.0	0
WOAY-TV D31 DT APP		4.0		1,056		0.0	0
WUNU D30 DT BL		246.1		7,095		222.3	5,074
WDBJ D30 DT BL		135.3		10,917		131.3	9,861
WKTC D31 DT BL		182.9		33,350		107.1	10,199
WHRO-TV D31 DT BL		92.0		6,713		59.9	3,577
WAXN-TV D32 DT CP		420.4		135,923		372.5	114,877
WRPX-TV D32 DT BL		64.1		15,270		36.1	12,218

Interference to DTVBL72106 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WGHP	D31	DT	BL	HIGH POINT, NC	DTVBL72106	
Undesireds:	WOAY-TV	D31	DT	BL	OAK HILL, WV	DTVBL66804	265.3 km
	WOAY-TV	D31	DT	APP	OAK HILL, WV	WOAY-TV 320KW PROP	265.2
	WUNU	D30	DT	BL	LUMBERTON, NC	DTVBL69416	134.0
	WHIG-CD	D30	DC	BL	ROCKY MOUNT, NC	DTVBL168101	185.9
	WDBJ	D30	DT	BL	ROANOKE, VA	DTVBL71329	156.2
	WKTC	D31	DT	BL	SUMTER, SC	DTVBL40902	206.5
	WHRO-TV	D31	DT	BL	HAMPTON-NORFOLK, VA	DTVBL25932	318.8
	WAXN-TV	D32	DT	CP	KANNAPOLIS, NC	BLANK0000025121	100.9
	WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	151.9
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
33664.5		3,779,889		33106.5		3,739,869	32021.5 3,540,285 0.00 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
WOAY-TV D31 DT BL		4.0		331		0.0	0
WOAY-TV D31 DT APP		4.0		331		0.0	0
WUNU D30 DT BL		254.1		7,386		226.2	5,360
WDBJ D30 DT BL		131.3		10,786		131.3	10,786
WKTC D31 DT BL		214.9		31,969		99.3	9,007
WHRO-TV D31 DT BL		112.1		14,136		63.9	11,088
WAXN-TV D32 DT CP		456.2		146,163		380.6	125,629
WRPX-TV D32 DT BL		64.1		14,510		36.1	12,106

Interference to DTVBL65690 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WDTN	D31	DT	BL	DAYTON, OH	DTVBL65690	
Undesireds:	WOAY-TV	D31	DT	BL	OAK HILL, WV	DTVBL66804	332.5 km
	WOAY-TV	D31	DT	APP	OAK HILL, WV	WOAY-TV 320KW PROP	332.6
	WKMR	D30	DT	CP	MOREHEAD, KY	BLANK0000025308	186.5
	WHIZ-TV	D30	DT	CP	ZANESVILLE, OH	BLANK0000024560	195.3
	DWKOG-LP	D31	DC	BL	INDIANAPOLIS, IN	DTVBL34894	162.6

Table 1 WOAY-TV OET Bulletin 69 Interference Study
(page 4 of 5 - condensed to show first scenarios only)



WNIT	D31	DT	CP	SOUTH BEND, IN	BLANK0000024784	266.3
WVUT	D31	DT	BL	VINCENNES, IN	DTVBL4329	301.7
WKMA-TV	D31	DT	CP	MADISONVILLE, KY	BLANK0000025302	399.2
WMYD	D31	DT	BL	DETROIT, MI	DTVBL74211	316.6
WYTV	D31	DT	BL	YOUNGSTOWN, OH	DTVBL4693	340.9
WANE-TV	D32	DT	BL	FORT WAYNE, IN	DTVBL39270	171.7
WOUB-TV	D32	DT	CP	ATHENS, OH	BLANK0000025156	186.1
WOGB-CD	D32	DC	CP	MARION, OH	BLANK0000024957	122.0

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
29949.4 3,660,328	29657.4 3,650,313	29469.1 3,646,106	29473.1 3,646,151	-0.01 -0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WOAY-TV D31 DT BL	23.9 585	23.9 585	
WOAY-TV D31 DT APP	19.9 540		19.9 540
WNIT D31 DT CP	20.0 393	0.0 0	0.0 0
WMYD D31 DT BL	156.4 3,540	116.3 2,571	116.3 2,571
WYTV D31 DT BL	20.1 576	0.0 0	0.0 0
WOGB-CD D32 DC CP	8.0 82	8.0 82	8.0 82

Interference to DTVBL4693 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL20287 BL, scenario 1
Proposal causes no interference.

Interference to BLANK0000025087 CP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WBXX-TV	D31	DT	CP	CROSSVILLE, TN	BLANK0000025087	
Undesireds:	WOAY-TV	D31	DT	BL	OAK HILL, WV	DTVBL66804	349.5 km
	WOAY-TV	D31	DT	APP	OAK HILL, WV	WOAY-TV 320KW PROP	349.5
	WDGA-CD	D30	DC	BL	DALTON, GA	DTVBL49235	164.8
	WYFF	D30	DT	CP	GREENVILLE, SC	BLANK0000024627	191.8
	WPCH-TV	D31	DT	APP	ATLANTA, GA	BLANK0000025264	255.8
	WVUT	D31	DT	BL	VINCENNES, IN	DTVBL4329	395.8
	WKMA-TV	D31	DT	CP	MADISONVILLE, KY	BLANK0000025302	307.6
	WGHP	D31	DT	CP	HIGH POINT, NC	BLANK0000025059	405.9
	WDTN	D31	DT	BL	DAYTON, OH	DTVBL65690	401.3
	WKTC	D31	DT	BL	SUMTER, SC	DTVBL40902	393.2
	WKPT-TV	D32	DT	BL	KINGSPORT, TN	DTVBL27504	200.4

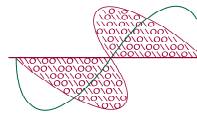
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
49835.0 2,142,759	44431.9 1,984,544	44084.8 1,972,485	44088.8 1,972,611	-0.01 -0.01

Undesired	Total IX	Unique IX, before	Unique IX, after
WOAY-TV D31 DT BL	16.0 955	16.0 955	
WOAY-TV D31 DT APP	12.0 829		12.0 829
WDGA-CD D30 DC BL	75.3 4,005	43.6 2,564	43.6 2,564
WPCH-TV D31 DT APP	235.4 6,528	199.7 5,087	199.7 5,087
WGHP D31 DT CP	8.1 6	4.0 6	4.0 6
WDTN D31 DT BL	20.0 1,512	20.0 1,512	20.0 1,512
WKTC D31 DT BL	4.0 0	4.0 0	4.0 0
WKPT-TV D32 DT BL	23.9 494	23.9 494	23.9 494

Interference to DTVBL72971 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WBXX-TV	D31	DT	BL	CROSSVILLE, TN	DTVBL72971	
Undesireds:	WOAY-TV	D31	DT	BL	OAK HILL, WV	DTVBL66804	349.5 km
	WOAY-TV	D31	DT	APP	OAK HILL, WV	WOAY-TV 320KW PROP	349.5
	WDGA-CD	D30	DC	BL	DALTON, GA	DTVBL49235	164.8
	WYFF	D30	DT	CP	GREENVILLE, SC	BLANK0000024627	191.8
	WPCH-TV	D31	DT	APP	ATLANTA, GA	BLANK0000025264	255.9
	WVUT	D31	DT	BL	VINCENNES, IN	DTVBL4329	395.8
	WKMA-TV	D31	DT	CP	MADISONVILLE, KY	BLANK0000025302	307.6
	WGHP	D31	DT	CP	HIGH POINT, NC	BLANK0000025059	405.9

Table 1 WOAY-TV OET Bulletin 69 Interference Study
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Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

WDTN	D31	DT	BL	DAYTON, OH	DTVBL65690	401.3
WKTC	D31	DT	BL	SUMTER, SC	DTVBL40902	393.2
WKPT-TV	D32	DT	BL	KINGSPORT, TN	DTVBL27504	200.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
49843.0 2,142,143	44468.4 1,985,984	44157.0 1,977,044	44161.0 1,977,170	-0.01 -0.01

Undesired	Total IX	Unique IX, before	Unique IX, after
WOAY-TV D31 DT BL	12.0 608	12.0 608	
WOAY-TV D31 DT APP	8.0 482		8.0 482
WDGA-CD D30 DC BL	67.4 1,981	39.7 793	39.7 793
WPCH-TV D31 DT APP	219.7 6,041	187.9 4,853	187.9 4,853
WGHP D31 DT CP	8.1 6	4.0 6	4.0 6
WDTN D31 DT BL	12.0 1,157	12.0 1,157	12.0 1,157
WKTC D31 DT BL	4.0 0	4.0 0	4.0 0
WKPT-TV D32 DT BL	19.9 335	19.9 335	19.9 335

Interference to DTVBL25932 BL, scenario 1
Proposal causes no interference.

Interference to BLANK0000025156 CP, scenario 1
Proposal causes no interference.

Interference to DTVBL50147 BL, scenario 1
Proposal causes no interference.

Interference to DTVBL27504 BL, scenario 1
Proposal causes no interference.

Interference to BLANK0000025088 CP, scenario 1
Proposal causes no interference.

Interference to DTVBL363 BL, scenario 1
Proposal causes no interference.

Interference to proposal, scenario 1
1.44% interference

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WOAY-TV	D31	DT	APP	OAK HILL, WV	WOAY-TV 320KW PROP	
Undesireds:	WDBJ	D30	DT	BL	ROANOKE, VA	DTVBL71329	121.9 km
	WGHP	D31	DT	CP	HIGH POINT, NC	BLANK0000025059	265.2
	WDTN	D31	DT	BL	DAYTON, OH	DTVBL65690	332.6
	WYTV	D31	DT	BL	YOUNGSTOWN, OH	DTVBL4693	347.9
	WATM-TV	D31	DT	BL	ALTOONA, PA	DTVBL20287	372.1
	WBXX-TV	D31	DT	CP	CROSSVILLE, TN	BLANK0000025087	349.5
	WOUB-TV	D32	DT	CP	ATHENS, OH	BLANK0000025156	174.0

Service area	Terrain-limited	IX-free	Percent IX
19257.1 571,891	15937.8 430,783	15790.6 424,565	0.92 1.44

Undesired	Total IX	Unique IX	Prcnt Unique IX
WDBJ D30 DT BL	8.0 17	8.0 17	0.05 0.00
WGHP D31 DT CP	63.5 1,022	59.5 1,022	0.37 0.24
WDTN D31 DT BL	51.9 4,543	51.9 4,543	0.33 1.05
WBXX-TV D31 DT CP	27.8 636	23.9 636	0.15 0.15

Channel and Facility Information

Section	Question	Response
Proposed Community of License	Facility ID	66804
	State	West Virginia
	City	OAK HILL
	DTV Channel	31
Facility Type	Facility Type	Commercial
	Station Type	Main
Zone	Zone	1

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1053536
Coordinates (NAD83)	Latitude	37° 57' 26.0" N+
	Longitude	081° 09' 02.0" W-
	Structure Type	TOWER-A free standing or guyed struct
	Overall Structure Height	218.8 meters
	Support Structure Height	183.3 meters
	Ground Elevation (AMSL)	609.6 meters
Antenna Data	Height of Radiation Center Above Ground Level	192.1 meters
	Height of Radiation Center Above Average Terrain	210.1 meters
	Height of Radiation Center Above Mean Sea Level	801.7 meters
	Effective Radiated Power	320 kW

Antenna
Technical Data

Section	Question	Response
Antenna Type	Antenna Type	Non-Directional
	Do you have an Antenna ID?	
	Antenna ID	
Antenna Manufacturer and Model	Manufacturer:	DIE
	Model	TFU-31JTH-R O4
	Rotation	
	Electrical Beam Tilt	0.75
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Horizontal
DTV and DTS: Elevation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	

Construction
Permit
Certifications

Section	Question	Response
Post-Incentive Auction Expedited Processing	It will operate on the DTV channel for this station as established in the post-incentive auction channel reassignment public notice.	Yes
	It will operate post-incentive auction facilities that do not expand the noise-limited service contour in any direction beyond that established by the post-incentive auction channel reassignment public notice.	No
	It will operate post-incentive auction facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the post-incentive auction channel reassignment public notice.	Yes
	The antenna structure to be used by this facility has been registered by the Commission and will not require re-registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely affect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7.	Yes
Environmental Effect	Would a Commission grant of Authorization for this location be an action which may have a significant environmental effect? (See Section 1.1306 of 47 C.F.R.)	No
Broadcast Facility	The proposed facility complies with the applicable engineering standards and assignment requirements of 47 C. F.R. Sections 73.616, 73.622(i), 73.623(e), 73.625, 73.1030, and 73.1125.	Yes