

ENGINEERING EXHIBIT

Incentive Auction Channel Reassignment

Application for Modification of Digital Television Station Construction Permit

prepared for

University Of North Carolina

WUNG-TV Concord, NC

Facility ID 69124

Ch. 21 260 kW 417 m

University Of North Carolina (“UNC”) is the licensee of digital television station WUNG-TV, Channel 44, Facility ID 69124, Concord, NC. Reassignment of WUNG-TV from Channel 44 to Channel 21 was specified in the *Incentive Auction Closing and Channel Reassignment Public Notice (“CCRPN”*, DA 17-317, released April 13, 2017). *UNC* herein proposes modification of the WUNG-TV post-auction Channel 21 Construction Permit (“CP”, file# 0000025213). This application is intended to be filed during the second filing window.¹ The CP authorizes operation with an effective radiated power (“ERP”) of 110 kW at 417 meters antenna height above average terrain. *UNC* proposes herein to increase the ERP to 260 kW.

As with the current authorization, the proposed Channel 21 operation will employ a new antenna system to be top-mounted on the WUNG-TV tower in lieu of the existing Channel 44 antenna. The existing tower structure corresponds to FCC Antenna Structure Registration (“ASR”) number 1014573. Due to the substantial downward change in frequency, the proposed Channel 21 antenna has a greater length than the existing Channel 44 antenna. The structure’s overall height will increase by 4.9 meters to 429.8 meters above ground level. The FAA has issued a Determination of No Hazard for the proposed height increase (2017-ASO-12950-OE) and the FCC ASR has been modified to reflect the increased height.

¹Public Notice “*Incentive Auction Task Force and Media Bureau Announce the Opening of the Second Filing Window for Eligible Full Power and Class A Television Station—October 3 Through November 2, 2017*” DA 17-911, released September 20, 2017.

The proposed antenna is an elliptically polarized nondirectional Dielectric model TFU-23JTH/VP-R O4 (SP) (33.4 percent vertical polarization). The horizontally polarized ERP is 230 kW and the vertically polarized ERP is 86.8 kW.

Figure 1 supplies a map that demonstrates compliance with §73.625(a)(1) regarding coverage of the entire principal community. The proposed facility's predicted population exceeds 95 percent of the *CCRPN* baseline facility's population.

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. **FCC processing of this proposal is requested using a 2 km cell size and 0.2 km terrain profile increment.** The interference study output report is provided as Table 1.

The nearest FCC monitoring station is 412 km distant at Powder Springs, GA. 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). There are no authorized AM stations within 3 kilometers of the site. 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

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 **0.2 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 is $0.7 \mu\text{W}/\text{cm}^2$, which is 0.2 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.

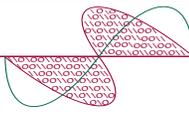
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power 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
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.	October 23, 2017	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



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

Figure 1
Proposed Coverage Contours
WUNG-TV Concord, NC
Facility ID 69124
Ch. 21 260 kW 417 m

prepared for
University Of North Carolina
 October, 2017

Proposed WUNG-TV
 48 dBu
 (Principal Community)
 41 dBu
 (Noise Limited Service Contour)

Proposed Digital Coverage	Area (sq. km)	Population (2010 Census)
Within Noise Limited Service Contour	28,492.0	3,481,018
OET Bulletin 69: TVStudy Within noise limited contour	30,348.6	3,605,143
Not affected by terrain losses	29,920.2	3,585,650
Lost to all interference	1,416.7	108,056
Net Interference-Free Service	28,503.5	3,477,594

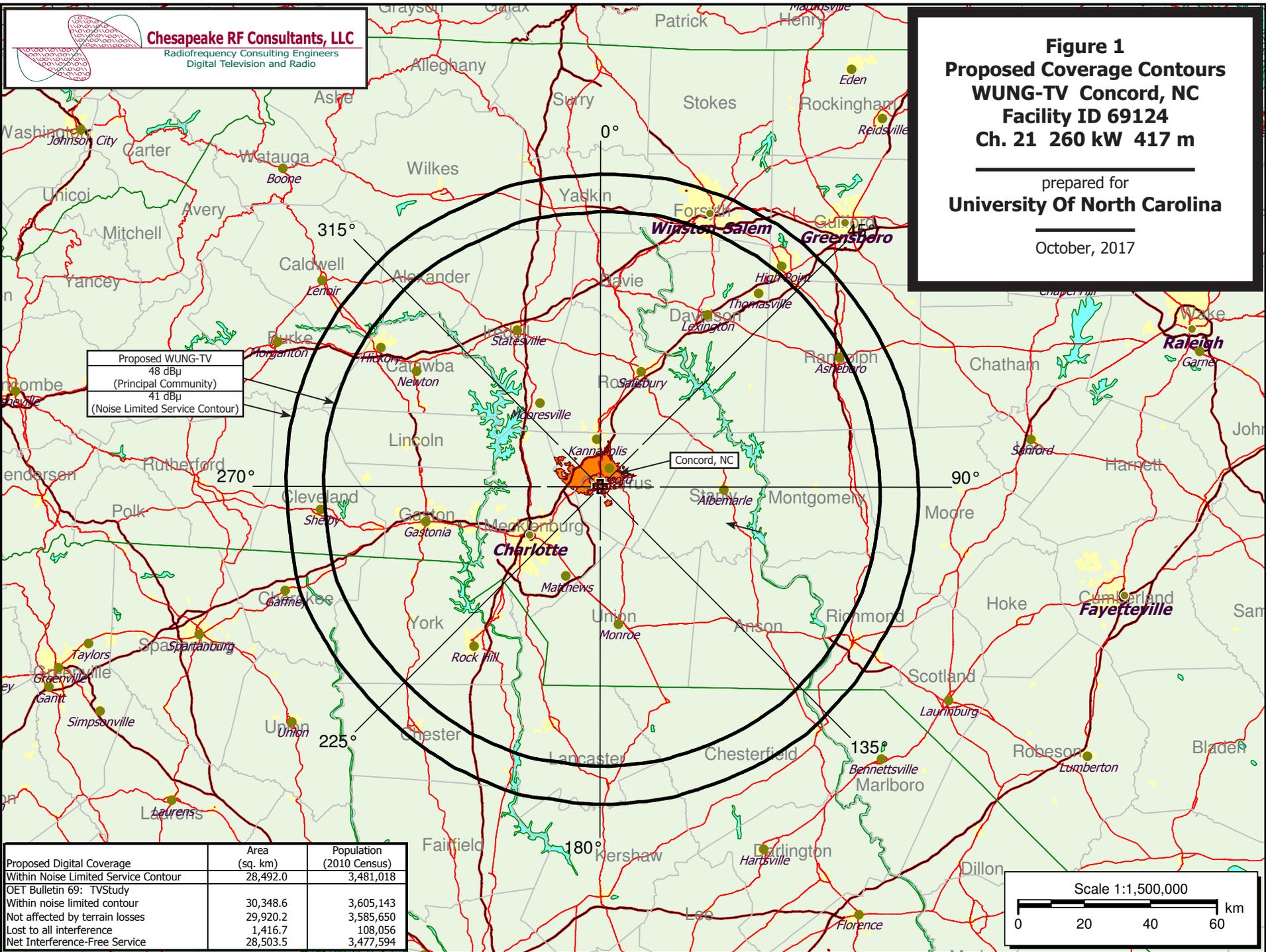
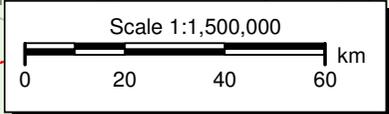
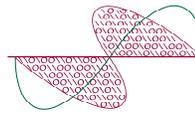


Table 1 WUNG-TV OET Bulletin 69 Interference Study
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tvstudy v2.2.3 (6K70F1)
 Database: localhost, Study: WUNG-TV PROP 260KW 2.0-0.2, Model: Longley-Rice
 Start: 2017.10.23 14:33:50

Study created: 2017.10.23 14:32:44

Study build station data: LMS TV 2017-10-07 LMSTV

Proposal: WUNG-TV D21 DT APP CONCORD, NC
 File number: WUNG-TV PROP 260KW
 Facility ID: 69124
 Station data: User record
 Record ID: 1396
 Country: U.S.
 Zone: II

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WUNF-TV	D20	DD	CP	ASHEVILLE, NC	BLANK0000029742	176.6 km
Yes	WUNC-TV	D20	DT	CP	CHAPEL HILL, NC	BLANK0000025215	142.1
No	WPBA	D21	DT	LIC	ATLANTA, GA	BLEDT20041013ABK	384.5
No	WKYT-TV	D21	DT	CP	LEXINGTON, KY	BLANK0000024945	450.5
No	WUNJ-TV	D21	DT	CP	WILMINGTON, NC	BLANK0000025131	246.0
Yes	WEBA-TV	D21	DT	CP	ALLENDALE, SC	BLANK0000025022	251.9
Yes	WVCW	D21	DT	CP	LYNCHBURG, VA	BLANK0000027725	235.0
No	WVBT	D21	DT	CP	VIRGINIA BEACH, VA	BLANK0000028471	402.4
Yes	WUVC-DT	D22	DT	CP	FAYETTEVILLE, NC	BLANK0000025149	148.8
Yes	WACH	D22	DT	CP	COLUMBIA, SC	BLANK0000027392	138.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D21
 Latitude: 35 21 30.70 N (NAD83)
 Longitude: 80 36 36.40 W
 Height AMSL: 614.1 m
 HAAT: 416.7 m
 Peak ERP: 260 kW
 Antenna: Omnidirectional
 Elev Pattn: Generic
 Elec Tilt: 0.90

39.5 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	260 kW	400.0 m	97.1 km
45.0	260	415.4	98.1
90.0	260	427.0	99.0
135.0	260	438.0	99.8
180.0	260	423.1	98.7
225.0	260	405.2	97.5
270.0	260	408.2	97.7
315.0	260	416.9	98.2

**Proposal service area extends beyond baseline plus 1.0%
 Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 719.2 km

Distance to Mexican border: 1872.2 km

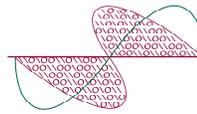
Conditions at FCC monitoring station: Powder Springs GA
 Bearing: 247.3 degrees Distance: 411.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
 Bearing: 291.1 degrees Distance: 2219.6 km

No land mobile station failures found

Table 1 WUNG-TV OET Bulletin 69 Interference Study
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Study cell size: 2.00 km
 Profile point spacing: 0.20 km

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

 Interference to BLANK0000029742 CP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WUNF-TV	D20	DD	CP	ASHEVILLE, NC	BLANK0000029742	
Undesireds:	WUNG-TV	D21	DT	BL	CONCORD, NC	DTVBL69124	176.6 km
	WUNG-TV	D21	DT	APP	CONCORD, NC	WUNG-TV PROP 260KW	176.6
	WSOC-TV	D19	DT	CP	CHARLOTTE, NC	BLANK0000025119	165.5
	WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK0000001584	145.1
	WANN-CD	D20	DC	CP	ATLANTA, GA	BLANK0000028242	227.2
	WUNC-TV	D20	DT	CP	CHAPEL HILL, NC	BLANK0000025215	314.2
	WVPB-TV	D20	DT	CP	HUNTINGTON, WV	BLANK0000026241	365.1
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	33873.1	2,335,055	29496.4	2,105,259	29359.9	2,100,451	0.00 0.00
Undesired			Total IX		Unique IX, before	Unique IX, after	
WUNG-TV D21 DT BL		8.1	345		0.0	0	
WUNG-TV D21 DT APP		8.1	345			0.0	0
WSOC-TV D19 DT CP		12.1	726		4.0	54	4.0 54
WKPZ-CD D19 DC LIC		12.0	197		4.0	124	4.0 124
WANN-CD D20 DC CP		4.0	0		4.0	0	4.0 0
WUNC-TV D20 DT CP		112.5	4,264		100.4	3,391	100.4 3,391
WVPB-TV D20 DT CP		12.0	366		4.0	293	4.0 293

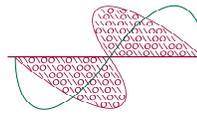
 Interference to BLANK0000029742 CP, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WUNF-TV	D20	DD	CP	ASHEVILLE, NC	BLANK0000029742	
Undesireds:	WUNG-TV	D21	DT	BL	CONCORD, NC	DTVBL69124	176.6 km
	WUNG-TV	D21	DT	APP	CONCORD, NC	WUNG-TV PROP 260KW	176.6
	WSOC-TV	D19	DT	CP	CHARLOTTE, NC	BLANK0000025119	165.5
	WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK0000001597	145.1
	WANN-CD	D20	DC	CP	ATLANTA, GA	BLANK0000028242	227.2
	WUNC-TV	D20	DT	CP	CHAPEL HILL, NC	BLANK0000025215	314.2
	WVPB-TV	D20	DT	CP	HUNTINGTON, WV	BLANK0000026241	365.1
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	33873.1	2,335,055	29496.4	2,105,259	29359.9	2,100,451	0.00 0.00
Undesired			Total IX		Unique IX, before	Unique IX, after	
WUNG-TV D21 DT BL		8.1	345		0.0	0	
WUNG-TV D21 DT APP		8.1	345			0.0	0
WSOC-TV D19 DT CP		12.1	726		4.0	54	4.0 54
WKPZ-CD D19 DC LIC		12.0	197		4.0	124	4.0 124
WANN-CD D20 DC CP		4.0	0		4.0	0	4.0 0
WUNC-TV D20 DT CP		112.5	4,264		100.4	3,391	100.4 3,391
WVPB-TV D20 DT CP		12.0	366		4.0	293	4.0 293

 Interference to BLANK0000025215 CP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WUNC-TV	D20	DT	CP	CHAPEL HILL, NC	BLANK0000025215	
Undesireds:	WUNG-TV	D21	DT	BL	CONCORD, NC	DTVBL69124	142.1 km
	WUNG-TV	D21	DT	APP	CONCORD, NC	WUNG-TV PROP 260KW	142.1
	WSOC-TV	D19	DT	CP	CHARLOTTE, NC	BLANK0000025119	156.3
	WUNF-TV	D20	DD	CP	ASHEVILLE, NC	BLANK0000029742	314.2
	WCBF-TV	D20	DT	CP	CHARLESTON, SC	BLANK0000027798	328.8
	WHSV-TV	D20	DT	APP	HARRISONBURG, VA	BLANK0000029912	255.9

Table 1 WUNG-TV OET Bulletin 69 Interference Study
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WGNT	D20	DT	CP	PORTSMOUTH, VA		BLANK0000027476	260.5		
Service area	4,051,071	Terrain-limited	4,025,856	IX-free, before	3,935,845	IX-free, after	3,932,767	Percent New IX	0.19 0.08
35727.5		35303.0		34123.8		34059.6			
Undesired		Total IX		Unique IX, before		Unique IX, after			
WUNG-TV D21 DT BL	503.9	28,010		48.4	1,317				
WUNG-TV D21 DT APP	660.1	34,725				112.6	4,395		
WSOC-TV D19 DT CP	427.1	20,139		32.3	339	12.1	294		
WUNF-TV D20 DD CP	822.6	80,406		376.3	53,932	320.2	50,294		
WCBD-TV D20 DT CP	227.4	9,971		111.3	3,524	115.4	3,593		
WHSV-TV D20 DT APP	43.8	445		39.8	406	39.8	406		
WGNT D20 DT CP	24.0	511		20.0	472	20.0	472		

Interference to BLANK0000025215 CP, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance		
	WUNC-TV	D20	DT	CP	CHAPEL HILL, NC	BLANK0000025215			
Undesireds:	WUNG-TV	D21	DT	BL	CONCORD, NC	DTVBL69124	142.1 km		
	WUNG-TV	D21	DT	APP	CONCORD, NC	WUNG-TV PROP 260KW	142.1		
	WSOC-TV	D19	DT	CP	CHARLOTTE, NC	BLANK0000025119	156.3		
	WUNF-TV	D20	DD	CP	ASHEVILLE, NC	BLANK0000029742	314.2		
	WCBD-TV	D20	DT	CP	CHARLESTON, SC	BLANK0000027798	328.8		
	WGNT	D20	DT	CP	PORTSMOUTH, VA	BLANK0000027476	260.5		
Service area	4,051,071	Terrain-limited	4,025,856	IX-free, before	3,936,251	IX-free, after	3,933,173	Percent New IX	0.19 0.08
35727.5		35303.0		34163.6		34099.4			
Undesired		Total IX		Unique IX, before		Unique IX, after			
WUNG-TV D21 DT BL	503.9	28,010		48.4	1,317				
WUNG-TV D21 DT APP	660.1	34,725				112.6	4,395		
WSOC-TV D19 DT CP	427.1	20,139		32.3	339	12.1	294		
WUNF-TV D20 DD CP	822.6	80,406		376.3	53,932	320.2	50,294		
WCBD-TV D20 DT CP	227.4	9,971		111.3	3,524	115.4	3,593		
WGNT D20 DT CP	24.0	511		24.0	511	24.0	511		

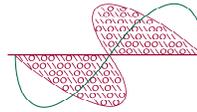
Interference to BLANK0000025022 CP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance		
	WEBA-TV	D21	DT	CP	ALLENDALE, SC	BLANK0000025022			
Undesireds:	WUNG-TV	D21	DT	BL	CONCORD, NC	DTVBL69124	251.9 km		
	WUNG-TV	D21	DT	APP	CONCORD, NC	WUNG-TV PROP 260KW	251.9		
	WPBA	D21	DT	LIC	ATLANTA, GA	BLEDT20041013ABK	279.7		
	WJCL	D22	DT	LIC	SAVANNAH, GA	BLANK0000029019	125.7		
	WACH	D22	DT	CP	COLUMBIA, SC	BLANK0000027392	118.7		
Service area	645,039	Terrain-limited	644,483	IX-free, before	643,263	IX-free, after	642,858	Percent New IX	0.10 0.06
15462.4		15442.3		15394.1		15378.0			
Undesired		Total IX		Unique IX, before		Unique IX, after			
WUNG-TV D21 DT BL	16.1	582		12.1	569				
WUNG-TV D21 DT APP	36.2	1,247				28.2	974		
WPBA D21 DT LIC	4.0	13		0.0	0	0.0	0		
WJCL D22 DT LIC	20.1	207		20.1	207	20.1	207		
WACH D22 DT CP	12.1	431		12.1	431	8.0	171		

Interference to BLANK0000027725 CP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WWCW	D21	DT	CP	LYNCHBURG, VA	BLANK0000027725	
Undesireds:	WUNG-TV	D21	DT	BL	CONCORD, NC	DTVBL69124	235.0 km
	WUNG-TV	D21	DT	APP	CONCORD, NC	WUNG-TV PROP 260KW	235.0
	WUNC-TV	D20	DT	CP	CHAPEL HILL, NC	BLANK0000025215	166.9
	WHSV-TV	D20	DT	APP	HARRISONBURG, VA	BLANK0000029912	98.0
	WMPT	D21	DT	APP	ANNAPOLIS, MD	BLANK0000029874	324.1
	WUNJ-TV	D21	DT	CP	WILMINGTON, NC	BLANK0000025131	356.6
	WPNT	D21	DT	CP	PITTSBURGH, PA	BLANK0000025702	354.3

Table 1 WUNG-TV OET Bulletin 69 Interference Study
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Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
38578.6 1,390,982	33242.4 1,229,798	32605.3 1,213,116	32473.7 1,208,299	0.40 0.40
Undesired	Total IX	Unique IX, before	Unique IX, after	
WVBT D21 DT CP	255.3 10,740	179.4 5,261		
WCVE-TV D22 DT CP	402.9 15,819			
WUNC-TV D20 DT CP	71.9 5,554	20.0 822	311.1 10,078	
WHSV-TV D20 DT APP	15.8 141	11.9 116	7.9 116	
WMPT D21 DT APP	306.1 3,589	286.3 3,483	282.3 3,483	
WUNJ-TV D21 DT CP	91.8 4,106	24.0 654	24.0 654	
WPNT D21 DT CP	4.0 317	4.0 317	4.0 317	
WVBT D21 DT CP	15.9 243	7.9 173	7.9 173	
WCVE-TV D22 DT CP	11.9 47	0.0 0	0.0 0	

Interference to BLANK0000027725 CP, scenario 2

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WWCW	D21	DT	CP	LYNCHBURG, VA	BLANK0000027725	
Undesireds: WUNG-TV	D21	DT	BL	CONCORD, NC	DTVBL69124	235.0 km
WUNG-TV	D21	DT	APP	CONCORD, NC	WUNG-TV PROP 260KW	235.0
WUNC-TV	D20	DT	CP	CHAPEL HILL, NC	BLANK0000025215	166.9
WHSV-TV	D20	DT	BL	HARRISONBURG, VA	DTVBL4688	167.2
WMPT	D21	DT	APP	ANNAPOLIS, MD	BLANK0000029874	324.1
WUNJ-TV	D21	DT	CP	WILMINGTON, NC	BLANK0000025131	356.6
WPNT	D21	DT	CP	PITTSBURGH, PA	BLANK0000025702	354.3
WVBT	D21	DT	CP	VIRGINIA BEACH, VA	BLANK0000028471	282.3
WCVE-TV	D22	DT	CP	RICHMOND, VA	BLANK0000027467	180.6
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX		
38578.6 1,390,982	33242.4 1,229,798	32617.2 1,213,232	32481.6 1,208,415	0.42 0.40		
Undesired	Total IX	Unique IX, before	Unique IX, after			
WUNG-TV D21 DT BL	255.3 10,740	179.4 5,261				
WUNG-TV D21 DT APP	402.9 15,819		315.0 10,078			
WUNC-TV D20 DT CP	71.9 5,554	20.0 822	16.0 644			
WHSV-TV D20 DT BL	4.0 0	0.0 0	0.0 0			
WMPT D21 DT APP	306.1 3,589	286.3 3,508	282.3 3,508			
WUNJ-TV D21 DT CP	91.8 4,106	24.0 654	24.0 654			
WPNT D21 DT CP	4.0 317	4.0 317	4.0 317			
WVBT D21 DT CP	15.9 243	7.9 173	7.9 173			
WCVE-TV D22 DT CP	11.9 47	0.0 0	0.0 0			

Interference to BLANK0000025149 CP, scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WUVC-DT	D22	DT	CP	FAYETTEVILLE, NC	BLANK0000025149	
Undesireds: WUNG-TV	D21	DT	BL	CONCORD, NC	DTVBL69124	148.8 km
WUNG-TV	D21	DT	APP	CONCORD, NC	WUNG-TV PROP 260KW	148.8
WUNJ-TV	D21	DT	CP	WILMINGTON, NC	BLANK0000025131	149.0
WACH	D22	DT	CP	COLUMBIA, SC	BLANK0000027392	225.0
WCVE-TV	D22	DT	CP	RICHMOND, VA	BLANK0000027467	254.1
WBTB	D23	DT	LIC	CHARLOTTE, NC	BLCDT19991025AEB	200.7
WARZ-CD	D23	DC	CP	SMITHFIELD-SELMA, NC	BLANK0000026452	44.0
WECT	D23	DT	CP	WILMINGTON, NC	BLANK0000025214	169.5
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX		
34122.0 3,524,371	33760.6 3,503,248	33107.8 3,476,533	33003.6 3,469,079	0.31 0.21		
Undesired	Total IX	Unique IX, before	Unique IX, after			
WUNG-TV D21 DT BL	100.0 4,077	84.1 2,466				
WUNG-TV D21 DT APP	204.2 11,531		188.3 9,920			
WUNJ-TV D21 DT CP	87.4 933	43.7 533	43.7 533			
WACH D22 DT CP	39.9 1,940	28.0 364	28.0 364			
WCVE-TV D22 DT CP	179.7 8,819	175.7 7,494	175.7 7,494			
WBTB D23 DT LIC	4.0 35	0.0 0	0.0 0			
WARZ-CD D23 DC CP	261.7 13,847	261.7 13,847	261.7 13,847			

Table 1 WUNG-TV OET Bulletin 69 Interference Study
(page 5 of 5)



WECT D23 DT CP 43.7 400 0.0 0 0.0 0

Interference to BLANK0000027392 CP, scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired: WACH	D22	DT	CP	COLUMBIA, SC	BLANK0000027392				
Undesireds: WUNG-TV	D21	DT	BL	CONCORD, NC	DTVBL69124	138.8 km			
WUNG-TV	D21	DT	APP	CONCORD, NC	WUNG-TV PROP 260KW	138.8			
WEBA-TV	D21	DT	CP	ALLENDALE, SC	BLANK0000025022	118.7			
WHSG-TV	D22	DT	CP	MONROE, GA	BLANK0000028032	334.2			
WJCL	D22	DT	LIC	SAVANNAH, GA	BLANK0000029019	234.9			
WUVC-DT	D22	DT	CP	FAYETTEVILLE, NC	BLANK0000025149	225.0			
WBTV	D23	DT	LIC	CHARLOTTE, NC	BLCDT19991025AEB	144.0			
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX					
28146.4	1,316,804	28074.6	1,315,694	27545.3	1,294,598	27541.3	1,294,470	0.01	0.01
Undesired	Total IX	Unique IX, before	Unique IX, after						
WUNG-TV D21 DT BL	0.0	0	0.0	0					
WUNG-TV D21 DT APP	19.8	1,418	4.0	128					
WEBA-TV D21 DT CP	4.0	37	4.0	37					
WHSG-TV D22 DT CP	16.0	107	8.0	51					
WJCL D22 DT LIC	132.2	1,319	124.1	1,263					
WUVC-DT D22 DT CP	123.3	1,599	115.4	1,562					
WBTV D23 DT LIC	269.8	18,127	261.9	18,090					

Interference to proposal, scenario 1
3.01% interference

Call	Chan	Svc	Status	City, State	File Number	Distance	
Desired: WUNG-TV	D21	DT	APP	CONCORD, NC	WUNG-TV PROP 260KW		
Undesireds: WUNF-TV	D20	DD	CP	ASHEVILLE, NC	BLANK0000029742	176.6 km	
WUNC-TV	D20	DT	CP	CHAPEL HILL, NC	BLANK0000025215	142.1	
WUNJ-TV	D21	DT	CP	WILMINGTON, NC	BLANK0000025131	246.0	
WEBA-TV	D21	DT	CP	ALLENDALE, SC	BLANK0000025022	251.9	
WWCW	D21	DT	CP	LYNCHBURG, VA	BLANK0000027725	235.0	
WUVC-DT	D22	DT	CP	FAYETTEVILLE, NC	BLANK0000025149	148.8	
WACH	D22	DT	CP	COLUMBIA, SC	BLANK0000027392	138.8	
Service area	Terrain-limited	IX-free	Percent IX				
30348.6	3,605,143	29920.2	3,585,650	28503.5	3,477,594	4.73	3.01
Undesired	Total IX	Unique IX	Prcnt Unique IX				
WUNF-TV D20 DD CP	160.2	19,312	144.3	17,950	0.48	0.50	
WUNC-TV D20 DT CP	419.4	21,119	48.4	2,996	0.16	0.08	
WUNJ-TV D21 DT CP	842.5	29,348	532.4	16,053	1.78	0.45	
WEBA-TV D21 DT CP	4.0	0	4.0	0	0.01	0.00	
WWCW D21 DT CP	474.4	64,463	184.5	47,587	0.62	1.33	
WUVC-DT D22 DT CP	370.9	13,293	28.3	365	0.09	0.01	
WACH D22 DT CP	35.8	93	27.9	73	0.09	0.00	

Channel and Facility Information

Section	Question	Response
Proposed Community of License	Facility ID	69124
	State	North Carolina
	City	CONCORD
	DTV Channel	21
Facility Type	Facility Type	Noncommercial Educational
	Station Type	Main
Zone	Zone	2

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1014573
Coordinates (NAD83)	Latitude	35° 21' 30.7" N+
	Longitude	080° 36' 36.4" W-
	Structure Type	GTOWER-Guyed Structure Used for Communication Purposes
	Overall Structure Height	429.8 meters
	Support Structure Height	414.0 meters
	Ground Elevation (AMSL)	192.9 meters
Antenna Data	Height of Radiation Center Above Ground Level	421.2 meters
	Height of Radiation Center Above Average Terrain	416.7 meters
	Height of Radiation Center Above Mean Sea Level	614.1 meters
	Effective Radiated Power	260 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-23JTH/VP-R O4 (SP)
	Rotation	
	Electrical Beam Tilt	0.9
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
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(j), 73.623(e), 73.625, 73.1030, and 73.1125.	Yes