

ENGINEERING EXHIBIT

Application for Modification of Digital Television Translator Station Construction Permit prepared for

University of North Carolina
W20EK-D Andrews, NC
Facility ID 69015
Ch. 20 (digital) 9 kW

University of North Carolina (“UNC”) is the licensee of digital television translator station W49DB-D, Channel 49, Andrews Etc, NC, Facility ID 69015 (file# BLDTT-20090615AAN). As a result of the Special Displacement Window,¹ a Construction Permit (“CP” file# 0000053439) authorizes W49DB-D to operate on Channel 20 as W20EK-D at 15 kW effective radiated power (“ERP”) and a nondirectional antenna. *UNC* proposes herein a minor modification of the displacement CP to decrease the ERP. No other changes are proposed.

As with the current CP, no change in site location is proposed. The existing antenna supporting structure is not registered as the overall structure height is less than 61 meters above ground and passes the FCC’s TOWAIR program for the tower location. The proposed W20EK-D facility will employ a replacement antenna system and no change to the overall structure height is proposed.

The proposed W20EK-D facility will operate at 9 kW ERP with a circularly polarized nondirectional antenna and a “full service” out of channel emission mask. Figure 1 depicts the 51 dB μ coverage contour of the licensed Channel 49 facility and those of the Channel 20 CP and proposed facilities, demonstrating compliance with §73.3572 for a minor change.

¹“*Incentive Auction Task Force and Media Bureau Announce Post-Incentive Auction Special Displacement Window April 10, 2018, through May 15, 2018, and Make Location and Channel Data Available,*” Public Notice, DA 18-124, released February 9, 2018.

Interference study per OET Bulletin 69² shows that the proposal complies with the FCC's interference protection requirements toward all digital television, television translator, LPTV, and Class A stations (existing and post-auction). FCC processing of this proposal is requested using a **1.0 km cell size and 0.2 km terrain profile increment**. The results, summarized in Table 1, show that any new interference does not exceed the FCC's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations) to any facility except with respect to WBXX-TV which does not present a conflict for the proposal.

As with the existing W20EK-D CP, the proposal is dependent on spectrum to be vacated and a waiver of the contingent application rule §73.3517 is requested regarding compliance with §73.3700(g)(2)(i). Operation of W20EK-D on Channel 20 will not commence until the following station discontinues operation on its current channel:

WBXX-TV Ch. 20 Crossville TN (repacked to Ch. 31, phase 5)

The applicant will accept a corresponding special operating condition on the modified CP authorization. Accordingly, the proposal complies with §74.793 regarding interference protection to digital television, low power television, television translator, and Class A television facilities.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

The proposed W20EK-D facility was evaluated for human exposure to Radiofrequency ("RF") energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10), and considering the antenna relative field in downward elevations, the graph in Figure 2 depicts calculated power density levels attributable to the proposed facility at locations near the site at a height of two meters above ground level. The maximum calculated RF electromagnetic field attributable to the proposed facility is $11.5 \mu\text{W}/\text{cm}^2$, which is 3.4 percent of the general population / uncontrolled maximum permissible exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple

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, 1 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.

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. No increase in structure height is proposed.

List of Attachments

Figure 1	Coverage Contour Comparison
Figure 2	Calculated RF Electromagnetic Field
Table 1	TVStudy Analysis of Proposal
Form 2100	Saved Version of Engineering Sections from FCC Form at Time of Upload

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E. August 19, 2019
207 Old Dominion Road Yorktown, VA 23692 703-650-9600

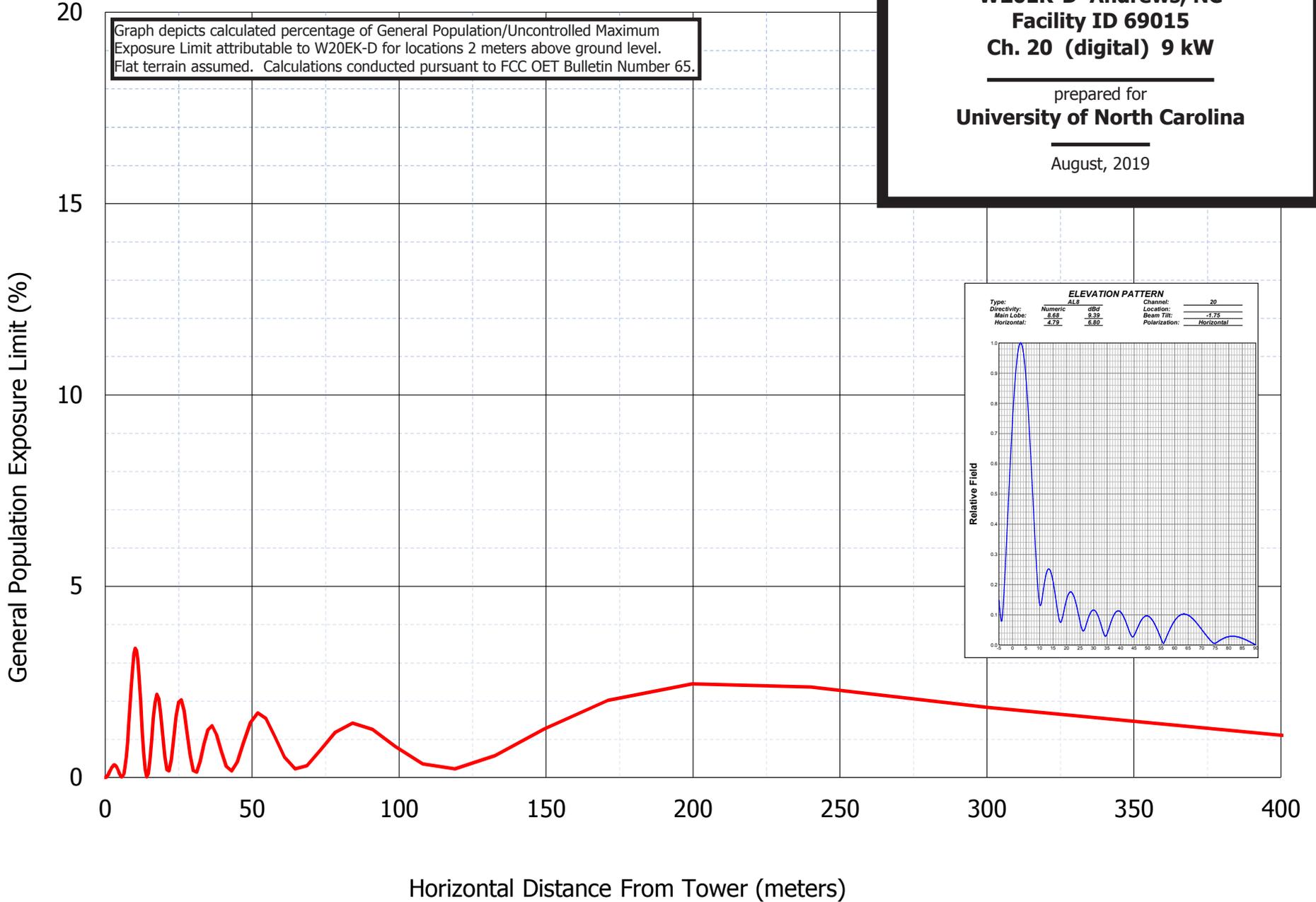


Table 1 W20EK-D TVStudy Analysis of Proposal
(page 1 of 6)



tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: W20EK-D to 9kW 1.0-0.2, Model: Longley-Rice
Start: 2019.08.16 15:58:19

Study created: 2019.08.16 15:52:59

Study build station data: LMS TV 2019-08-16

Proposal: W20EK-D D20 LD APP ANDREWS, ETC, NC
File number: W20EK-D to 9kW
Facility ID: 69015
Station data: User record
Record ID: 2830
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WHNT-TV	D19	DT	LIC	HUNTSVILLE, AL	BLCDT20111118COZ	255.8 km
No	WGCL-TV	D19	DT	LIC	ATLANTA, GA	BLCDT20060113ACO	168.7
No	W19HK-D	D19	LD	LIC	BLACK MOUNTAIN, NC	BLDTT20090615AAO	132.4
No	W19DD-D	D19	LD	LIC	BREVARD, NC	BLDTT20090615AAW	101.5
Yes	W19DB-D	D19	LD	LIC	FRANKLIN, NC	BLDTT20080829ABC	21.6
No	W06OD	D19	LD	CP	SPRUCE PINE, NC	BDCDTT20141125AZF	169.5
No	W19CR-D	D19	LD	LIC	TRYON, NC	BLANK0000027376	140.8
No	WOOT-LD	D19	LD	CP	CHATTAHOOGA, TN	BLANK0000054055	129.3
No	WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK0000001584	178.2
No	WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK0000001597	178.2
No	WABM	D20	DT	CP	BIRMINGHAM, AL	BLANK0000034382	339.3
No	W20DE-D	D20	LD	LIC	BIRMINGHAM, AL	BLDTL20120222AAL	344.3
No	W41EL-D	D20	LD	APP	EUFULA, AL	BLANK0000072243	356.4
No	WCOV-TV	D20	DT	LIC	MONTGOMERY, AL	BLCDT20090312AAO	425.6
No	W20DF-D	D20	LD	LIC	RUSSELLVILLE, AL	BLANK0000004499	370.1
No	W20EP-D	D20	LD	CP	TROY, AL	BLANK0000071948	406.4
No	WANN-CD	D20	DC	CP	ATLANTA, GA	BLANK0000028242	168.7
Yes	WPCH-TV	D20	DT	LIC	ATLANTA, GA	BLCDT20050204AAD	168.7
No	WCZC-LD	D20	LD	LIC	AUGUSTA, GA	BLDTL20150112ACR	261.5
No	W20DZ-D	D20	LD	CP	BYRON, GA	BNPDTL20100510AFP	293.2
Yes	WDNN-CD	D20	DC	CP	DALTON, GA	BLANK0000028630	125.6
No	WCGZ-LD	D20	LD	CP	LA GRANGE, GA	BLANK0000053202	279.3
No	W20DL-D	D20	LD	CP	MACON, GA	BNPDTL20100205ACG	279.4
No	W20CY	D20	LD	CP	TIFTON, GA	BDFCDTL20091118AGP	424.8
No	W20EC-D	D20	LD	CP	VIDALIA, GA	BDCDTL20121001AGL	351.8
No	WKUT-LD	D20	LD	CP	BOWLING GREEN, KY	BLANK0000071998	326.2
Yes	WUNF-TV	D20	DD	CP	ASHEVILLE, NC	BLANK0000029742	113.2
No	W12AU	D20	LD	CP	BURNSVILLE, NC	BDCDTT20141125AZE	155.1
No	WUNC-TV	D20	DT	CP	CHAPEL HILL, NC	BLANK0000075398	423.9
No	WDMC-LD	D20	LD	CP	CHARLOTTE, NC	BLANK0000054923	282.2
No	W20DD-D	D20	LD	LIC	MARION, ETC., NC	BLDTT20100209ABG	211.5
No	WLWT	D20	DT	CP	CINCINNATI, OH	BLANK0000034539	434.6
No	WCBD-TV	D20	DT	CP	CHARLESTON, SC	BLANK0000034805	456.8
No	W20DH-D	D20	LD	CP	FLORENCE, SC	BNPDTL20100409ABW	406.0
Yes	WBXX-TV	D20	DT	LIC	CROSSVILLE, TN	BLCDT20090619ABD	106.6
No	WZTV	D20	DT	CP	NASHVILLE, TN	BLANK0000028847	292.7
No	WNPX-LP	N20-	TX	LIC	NASHVILLE, TN	BLTTL20021119ABM	293.0
No	WWCW	D20	DT	LIC	LYNCHBURG, VA	BLCDT20090619ABM	437.8
No	WPBA	D21	DT	LIC	ATLANTA, GA	BLEDT20041013ABK	173.7
No	WKSJ-LD	D21	LD	LIC	SUMMERVILLE/TRION, GA	BLDTL20100104AAD	162.7
Yes	W40CW-D	D21	LD	CP	BRYSON CITY, NC	BLANK0000054209	37.2
Yes	WHNS	D21	DT	LIC	GREENVILLE, SC	BLCDT20100430ADX	101.4
No	W14CX-D	D21	LD	CP	KNOXVILLE, TN	BLANK0000051769	83.4
No	WCTD-LP	N22-	TX	LIC	DUCKTOWN, TN	BLTTL20070622ADD	64.6
No	WJZC-LP	N22+	TX	LIC	SEVIERVILLE, TN	BLTTL19901017JE	72.6
No	WEZK-LP	N28z	TX	LIC	KNOXVILLE, TN	BLTTL20001011ACO	84.6

No non-directional AM stations found within 0.8 km

Table 1 W20EK-D TVStudy Analysis of Proposal
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No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D20
 Mask: Full Service
 Latitude: 35 15 26.30 N (NAD83)
 Longitude: 83 47 42.60 W
 Height AMSL: 1459.0 m
 HAAT: 0.0 m
 Peak ERP: 9.00 kW
 Antenna: Omnidirectional
 Elev Pattn: Generic
 Elec Tilt: 1.75

49.4 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	9.00 kW	680.7 m	68.5 km
45.0	9.00	524.1	64.2
90.0	9.00	515.5	64.0
135.0	9.00	456.9	62.2
180.0	9.00	629.6	67.3
225.0	9.00	858.5	72.0
270.0	9.00	463.9	62.4
315.0	9.00	754.2	70.1

Database HAAT does not agree with computed HAAT
 Database HAAT: 0 m Computed HAAT: 610 m

Distance to Canadian border: 720.1 km

Distance to Mexican border: 1622.6 km

Conditions at FCC monitoring station: Powder Springs GA
 Bearing: 209.0 degrees Distance: 176.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
 Bearing: 292.4 degrees Distance: 1955.4 km

No land mobile station failures found

Study cell size: 1.00 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 BLDTT20080829ABC LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	W19DB-D	D19	LD	LIC	FRANKLIN, NC	BLDTT20080829ABC	
Undesireds:	W20EK-D	D20	LD	APP	ANDREWS, ETC, NC	W20EK-D to 9kW	21.6 km
	WGCL-TV	D19	DT	LIC	ATLANTA, GA	BLCDT20060113ACO	166.9
	W19DD-D	D19	LD	LIC	BREVARD, NC	BLDTT20090615AAW	81.7
	WOOT-LD	D19	LD	CP	CHATTANOOGA, TN	BLANK0000054055	149.1
	WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK0000001584	175.1
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	6744.0	143,835	5369.5	96,641	5327.7	96,474	0.06 0.03
Undesired			Total IX		Unique IX, before	Unique IX, after	
W20EK-D	D20	LD	APP	5.0	27	3.0	27
WGCL-TV	D19	DT	LIC	22.0	169	19.0	169
W19DD-D	D19	LD	LIC	1.0	1	1.0	1
WOOT-LD	D19	LD	CP	19.9	0	18.9	0

Table 1 W20EK-D TVStudy Analysis of Proposal
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Interference to BLCDT20050204AAD LIC scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired: WPCH-TV	D20	DT	LIC	ATLANTA, GA	BLCDT20050204AAD			
Undesireds: W20EK-D	D20	LD	APP	ANDREWS, ETC, NC	W20EK-D to 9kW	168.7 km		
WGCL-TV	D19	DT	LIC	ATLANTA, GA	BLCDT20060113ACO	0.0		
WCOV-TV	D20	DT	LIC	MONTGOMERY, AL	BLCDT20090312AAO	265.4		
WBXX-TV	D20	DT	LIC	CROSSVILLE, TN	BLCDT20090619ABD	255.8		
Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
32239.9	5,987,078	30822.6	5,913,466	30202.1	5,872,442	30148.9	5,869,044	0.18 0.06
Undesired	Total IX		Unique IX, before		Unique IX, after			
W20EK-D D20 LD APP	167.7	12,213	53.2	3,398				
WGCL-TV D19 DT LIC	1.0	238	1.0	238	1.0	238		
WCOV-TV D20 DT LIC	262.7	10,163	226.9	7,732	215.9	7,140		
WBXX-TV D20 DT LIC	392.6	33,054	356.8	30,623	259.3	22,547		

Interference to BLANK0000028630 CP scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired: WDNN-CD	D20	DC	CP	DALTON, GA	BLANK0000028630			
Undesireds: W20EK-D	D20	LD	APP	ANDREWS, ETC, NC	W20EK-D to 9kW	125.6 km		
WABM	D20	DT	CP	BIRMINGHAM, AL	BLANK0000034382	215.4		
WANN-CD	D20	DC	CP	ATLANTA, GA	BLANK0000028242	120.3		
WZTV	D20	DT	CP	NASHVILLE, TN	BLANK0000028847	234.1		
Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
6802.3	642,097	5941.2	583,824	5892.0	582,866	5867.0	580,722	0.43 0.37
Undesired	Total IX		Unique IX, before		Unique IX, after			
W20EK-D D20 LD APP	35.1	2,242	25.0	2,144				
WABM D20 DT CP	26.1	815	18.1	547	16.1	487		
WANN-CD D20 DC CP	18.1	50	13.0	50	10.0	50		
WZTV D20 DT CP	17.1	361	8.0	93	7.0	55		

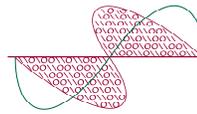
Interference to BLANK0000029742 CP scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired: WUNF-TV	D20	DD	CP	ASHEVILLE, NC	BLANK0000029742			
Undesireds: W20EK-D	D20	LD	APP	ANDREWS, ETC, NC	W20EK-D to 9kW	113.2 km		
WSOC-TV	D19	DT	CP	CHARLOTTE, NC	BLANK0000034695	165.5		
WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK000001584	145.1		
WANN-CD	D20	DC	CP	ATLANTA, GA	BLANK0000028242	227.2		
WUNC-TV	D20	DT	CP	CHAPEL HILL, NC	BLANK0000075398	314.2		
WCBD-TV	D20	DT	CP	CHARLESTON, SC	BLANK0000034805	365.1		
WVPB-TV	D20	DT	BL	HUNTINGTON, WV	DTVBL71657	365.1		
WUNG-TV	D21	DT	CP	CONCORD, NC	BLANK0000034415	176.6		
Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
33909.2	2,335,691	29720.7	2,103,912	29566.8	2,095,856	29501.1	2,095,417	0.22 0.02
Undesired	Total IX		Unique IX, before		Unique IX, after			
W20EK-D D20 LD APP	77.6	1,307	65.7	439				
WSOC-TV D19 DT CP	9.9	753	2.0	73	2.0	73		
WKPZ-CD D19 DC LIC	12.1	682	7.1	609	6.1	609		
WANN-CD D20 DC CP	19.0	35	19.0	35	14.0	35		
WUNC-TV D20 DT CP	114.9	6,818	105.9	6,060	101.0	5,207		
WCBD-TV D20 DT CP	2.0	55	0.0	0	0.0	0		
WVPB-TV D20 DT BL	8.1	366	3.0	293	3.0	293		
WUNG-TV D21 DT CP	5.9	318	1.0	15	0.0	0		

Interference to BLANK0000029742 CP scenario 2

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WUNF-TV	D20	DD	CP	ASHEVILLE, NC	BLANK0000029742	

Table 1 W20EK-D TVStudy Analysis of Proposal
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Undesireds:	W20EK-D	D20	LD	APP	ANDREWS, ETC, NC	W20EK-D to 9kW	113.2	km
	WSOC-TV	D19	DT	CP	CHARLOTTE, NC	BLANK0000034695	165.5	
	WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK000001597	145.1	
	WANN-CD	D20	DC	CP	ATLANTA, GA	BLANK0000028242	227.2	
	WUNC-TV	D20	DT	CP	CHAPEL HILL, NC	BLANK0000075398	314.2	
	WCBD-TV	D20	DT	CP	CHARLESTON, SC	BLANK0000034805	365.1	
	WVPB-TV	D20	DT	BL	HUNTINGTON, WV	DTVBL71657	365.1	
	WUNG-TV	D21	DT	CP	CONCORD, NC	BLANK0000034415	176.6	

	Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
	33909.2	2,335,691	29720.7	2,103,912	29566.8	2,095,856	29501.1	2,095,417	0.22 0.02

Undesired				Total IX	Unique IX, before	Unique IX, after
W20EK-D	D20	LD	APP	77.6	1,307	65.7 439
WSOC-TV	D19	DT	CP	9.9	753	2.0 73
WKPZ-CD	D19	DC	LIC	12.1	682	7.1 609
WANN-CD	D20	DC	CP	19.0	35	19.0 35
WUNC-TV	D20	DT	CP	114.9	6,818	105.9 6,060
WCBD-TV	D20	DT	CP	2.0	55	0.0 0
WVPB-TV	D20	DT	BL	8.1	366	3.0 293
WUNG-TV	D21	DT	CP	5.9	318	1.0 15

Interference to BLCDT20090619ABD LIC scenario 1

**IX: 0.59% interference caused

**See text: waiver of the contingent application rule §73.3517 is requested
WBXX-TV moves to Ch. 31 at phase 5**

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WBXX-TV	D20	DT	LIC	CROSSVILLE, TN	BLCDT20090619ABD	

Undesireds:	W20EK-D	D20	LD	APP	ANDREWS, ETC, NC	W20EK-D to 9kW	106.6	km
	WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK000001584	163.6	
	WPCH-TV	D20	DT	LIC	ATLANTA, GA	BLCDT20050204AAD	255.8	
	WHNS	D21	DT	LIC	GREENVILLE, SC	BLCDT20100430ADX	181.6	

	Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
	49819.8	2,142,001	46104.0	2,003,445	45973.2	1,998,934	45632.7	1,987,119	0.74 0.59

Undesired				Total IX	Unique IX, before	Unique IX, after
W20EK-D	D20	LD	APP	378.5	12,377	340.6 11,815
WPCH-TV	D20	DT	LIC	129.7	4,511	129.7 4,511
WHNS	D21	DT	LIC	1.0	0	1.0 0

Interference to BLANK0000054209 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	W40CW-D	D21	LD	CP	BRYSON CITY, NC	BLANK0000054209	

Undesireds:	W20EK-D	D20	LD	APP	ANDREWS, ETC, NC	W20EK-D to 9kW	37.2	km
	WPBA	D21	DT	LIC	ATLANTA, GA	BLEDT20041013ABK	199.1	
	WDRF-LD	D21	LD	CP	AUGUSTA, GA	BLANK0000067887	238.5	
	W21DA-D	D21	LD	LIC	Macon, GA	BLANK0000004984	313.2	
	WKYT-TV	D21	DT	LIC	LEXINGTON, KY	BLANK0000074953	308.3	
	WUNG-TV	D21	DT	CP	CONCORD, NC	BLANK0000034415	254.2	
	W14CX-D	D21	LD	CP	KNOXVILLE, TN	BLANK0000051769	84.0	
	WUXP-TV	D21	DT	LIC	NASHVILLE, TN	BLCDT20060414AAU	320.0	
	WCTD-LP	D22	LD	CP	DUCKTOWN, TN	BDFCDTL20110829AAE	122.3	
	WJZC-LP	N22+	TX	LIC	SEVIERVILLE, TN	BLTTL19901017JE	56.8	

	Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
	13658.4	455,163	9752.3	203,326	9740.4	203,228	9731.4	203,030	0.09 0.10

Undesired				Total IX	Unique IX, before	Unique IX, after
W20EK-D	D20	LD	APP	9.0	198	9.0 198
WPBA	D21	DT	LIC	4.0	4	4.0 4
WDRF-LD	D21	LD	CP	2.0	54	2.0 54
WKYT-TV	D21	DT	LIC	1.0	0	1.0 0
WUNG-TV	D21	DT	CP	2.0	40	2.0 40
W14CX-D	D21	LD	CP	4.0	0	4.0 0
WUXP-TV	D21	DT	LIC	1.0	0	1.0 0

Table 1 W20EK-D TVStudy Analysis of Proposal
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Interference to BLANK0000054209 CP scenario 2

Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired: W40CW-D	D21	LD	CP	BRYSON CITY, NC	BLANK0000054209				
Undesireds: W20EK-D	D20	LD	APP	ANDREWS, ETC, NC	W20EK-D to 9kW	37.2 km			
WPBA	D21	DT	LIC	ATLANTA, GA	BLEDT20041013ABK	199.1			
W21DA-D	D21	LD	LIC	Macon, GA	BLANK0000004984	313.2			
WKYT-TV	D21	DT	LIC	LEXINGTON, KY	BLANK0000074953	308.3			
WUNG-TV	D21	DT	CP	CONCORD, NC	BLANK0000034415	254.2			
W14CX-D	D21	LD	CP	KNOXVILLE, TN	BLANK0000051769	84.0			
WUXP-TV	D21	DT	LIC	NASHVILLE, TN	BLCDT20060414AAU	320.0			
WCTD-LP	D22	LD	CP	DUCKTOWN, TN	BDFCDTL20110829AAE	122.3			
WJZC-LP	N22+	TX	LIC	SEVIERVILLE, TN	BLTTL19901017JE	56.8			
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX					
13658.4	455,163	9752.3	203,326	9742.4	203,282	9733.4	203,084	0.09	0.10
Undesired	Total IX	Unique IX, before	Unique IX, after						
W20EK-D D20 LD APP	9.0	198	9.0	198					
WPBA D21 DT LIC	4.0	4	4.0	4					
WKYT-TV D21 DT LIC	1.0	0	0.0	0					
WUNG-TV D21 DT CP	2.0	40	2.0	40					
W14CX-D D21 LD CP	4.0	0	2.0	0					
WUXP-TV D21 DT LIC	1.0	0	0.0	0					

Interference to BLCDT20100430ADX LIC scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired: WHNS	D21	DT	LIC	GREENVILLE, SC	BLCDT20100430ADX				
Undesireds: W20EK-D	D20	LD	APP	ANDREWS, ETC, NC	W20EK-D to 9kW	101.4 km			
WPBA	D21	DT	LIC	ATLANTA, GA	BLEDT20041013ABK	219.0			
WKYT-TV	D21	DT	LIC	LEXINGTON, KY	BLANK0000074953	352.8			
W21CK-D	D21	DC	LIC	CHARLOTTE, NC	BLDTA20110706AAV	164.0			
WWMB	D21	DT	LIC	FLORENCE, SC	BLCDT20090619ACJ	319.1			
WUXP-TV	D21	DT	LIC	NASHVILLE, TN	BLCDT20060414AAU	390.0			
WAPW-CD	D21	DC	LIC	ABINGDON, ETC., VA	BLANK0000001495	216.8			
WCNC-TV	D22	DT	LIC	CHARLOTTE, NC	BLCDT20031211ABN	138.4			
WKPT-CD	D22	DC	LIC	KINGSPORT, TN	BLDTA20120420ACJ	149.7			
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX					
42347.2	2,550,117	37189.9	2,301,764	36886.4	2,291,788	36882.4	2,291,788	0.01	0.00
Undesired	Total IX	Unique IX, before	Unique IX, after						
W20EK-D D20 LD APP	8.0	0	4.0	0					
WPBA D21 DT LIC	84.1	3,569	76.1	3,569					
WKYT-TV D21 DT LIC	24.1	376	13.0	4					
W21CK-D D21 DC LIC	14.0	1,012	6.1	158					
WWMB D21 DT LIC	54.7	2,011	28.9	963					
WUXP-TV D21 DT LIC	2.0	0	0.0	0					
WAPW-CD D21 DC LIC	15.0	364	4.0	0					
WCNC-TV D22 DT LIC	149.4	4,886	123.5	3,597					
WKPT-CD D22 DC LIC	14.1	372	3.0	0					

Table 1 W20EK-D TVStudy Analysis of Proposal
 (page 6 of 6)



Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	W20EK-D	D20	LD	APP	ANDREWS, ETC, NC	W20EK-D to 9kW	
Undesireds:	W19DB-D	D19	LD	LIC	FRANKLIN, NC	BLDTT20080829ABC	21.6 km
	WANN-CD	D20	DC	CP	ATLANTA, GA	BLANK0000028242	168.7
	WDNN-CD	D20	DC	CP	DALTON, GA	BLANK0000028630	125.6
	WUNF-TV	D20	DD	CP	ASHEVILLE, NC	BLANK0000029742	113.2
	W40CW-D	D21	LD	CP	BRYSON CITY, NC	BLANK0000054209	37.2
	Service area		Terrain-limited		IX-free	Percent IX	
	13785.2	415,692	9532.0	184,480	9445.3	183,487	0.91 0.54
Undesired				Total IX		Unique IX	Prct Unique IX
W19DB-D	D19	LD	LIC	50.9	807	36.9	635 0.39 0.34
WANN-CD	D20	DC	CP	1.0	0	1.0	0 0.01 0.00
WDNN-CD	D20	DC	CP	2.0	24	2.0	24 0.02 0.01
WUNF-TV	D20	DD	CP	20.9	137	11.9	45 0.13 0.02
W40CW-D	D21	LD	CP	29.8	197	16.9	117 0.18 0.06

Channel and Facility Information

Section	Question	Response
Facility ID	69015	
State	North Carolina	
City	ANDREWS, ETC	
LPT Channel	20	

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	No
	ASR Number	
Coordinates (NAD83)	Latitude	35° 15' 26.3" N+
	Longitude	083° 47' 42.6" W-
	Structure Type	TOWER-A free standing or guyed struct
	Overall Structure Height	41.2 meters
	Support Structure Height	41.2 meters
	Ground Elevation (AMSL)	1436 meters
Antenna Data	Height of Radiation Center Above Ground Level	23 meters
	Height of Radiation Center Above Mean Sea Level	1459 meters
	Effective Radiated Power	9 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:	ERI
	Model	AL80-20-E
	Rotation	
	Electrical Beam Tilt	1.75
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Circular
Elevation Radiation 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	
	Out-of-Channel Emission Mask:	Full Service