The University of North Carolina
WUNU, Lumberton, NC (Fac. ID No. 69416)
Engineering STA

Justification for STA

The University of North Carolina, the licensee of WUNU, Lumberton, North Carolina (FID 69416), requests authority to continue operating with its pre-auction technical parameters for a short period of time following the Phase 5 transition deadline of September 11, 2019. This short extension is necessary to allow a station that is upstream from WUNU time to resolve a technical issue that is preventing it from beginning operations with its post-auction channel.

More specifically, WUNU is downstream from WSFX-TV, Wilmington, North Carolina (FID 72871), licensed to WSFX License Subsidiary, LLC. WSFX's post-auction operations requires use of a shared combiner with WECT, Wilmington, North Carolina (FID 48666), licensed to Gray Television Licensee, LLC, and WWAY, Wilmington, North Carolina (FID 12033), licensed to WWAY-TV, LLC (collectively, the "Stations"). During the test period, the Stations identified a technical flaw with the shared combiner. The manufacturer has deployed personnel to the tower site to replace the flawed equipment. Based on current feedback from the manufacturer, the Stations anticipate needing to operate on their pre-auction channels for only a short period of time.

WUNU is the only station that is downstream from the Stations. While WUNU is ready to begin operations with its post-auction facility, it has agreed to delay its transition in order to provide the Stations with time to resolve these technical issues. Attached is a TV Study analysis confirming that only WUNU is impacted by the Stations' transition delay.

Accordingly, WUNU respectfully requests Special Temporary Authority to continue operating on its pre-auction facility for a short time in order to allow the Stations to resolve the technical issues with its combiner.

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tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: WUNU Lic-31 BLEDT20091113ABG, Model: Longley-Rice
Start: 2019.09.09 13:47:18

Study created: 2019.09.09 13:47:18

Study build station data: LMS TV 2019-09-04

    Proposal: WUNU D31 DT LIC LUMBERTON, NC
 File number: BLEDT20091113ABG
 Facility ID: 69416
Station data: LMS TV 2019-09-04
   Record ID: f3325fa4ae404640b1f1cf6212b6c0ea
     Country: U.S.
        Zone: II

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	WHIG-CD	D30	DC	CP	ROCKY MOUNT, NC	BLANK0000028657	167.9 km
Yes	WGHP	D31	DT	CP	HIGH POINT, NC	BLANK0000034212	134.0
Yes	WKTC	D31	DT	CP	SUMTER, SC	BLANK0000027544	174.8
No	WHRO-TV	D31	DT	CP	HAMPTON-NORFOLK, VA	BLANK0000026987	320.1
No	WOAY-TV	D31	DT	CP	OAK HILL, WV	BLANK0000028013	398.5
No	WAXN-TV	D32	DT	CP	KANNAPOLIS, NC	BLANK0000034696	161.5
Yes	WRPX-TV	D32	DT	CP	ROCKY MOUNT, NC	BLANK0000068236	140.9
No	WJWJ-TV	D32	DT	CP	BEAUFORT, SC	BLANK0000025030	276.8
No	WMBF-TV	D32	DT	LIC	MYRTLE BEACH, SC	BLCDT20091105AAP	118.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

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    Channel: D31
   Latitude:  34 47 51.00 N (NAD83)
  Longitude:  79  2 41.00 W
Height AMSL: 371.0 m
       HAAT: 319.0 m
   Peak ERP: 175 kW
    Antenna: Omnidirectional
Elev Pattrn: Generic
  Elec Tilt: 0.80

40.4 dBu contour:
Azimuth      ERP       HAAT   Distance
  0.0 deg    175 kW   314.8 m   84.6 km
 45.0        175      320.6     85.3
 90.0        175      325.8     85.9
135.0        175      325.2     85.8
180.0        175      324.6     85.8
225.0        175      319.7     85.2
270.0        175      314.6     84.6
315.0        175      309.9     84.1

Distance to Canadian border: 818.5 km

Distance to Mexican border: 1970.4 km

Conditions at FCC monitoring station: Laurel MD
Bearing: 21.5 degrees   Distance: 524.0 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 292.2 degrees   Distance: 2374.9 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%


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Interference to BLANK0000034212 CP scenario 1
**IX: 6.88% interference caused

             Call      Chan  Svc Status  City, State               File Number
      Distance
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Desired:	WGHP	D31	DT	CP	HIGH POINT, NC	BLANK0000034212
Undesireds:	WUNU	D31	DT	LIC	LUMBERTON, NC	BLEDT20091113ABG
134.0 km						
	WDBJ	D30	DT	CP	ROANOKE, VA	BLANK0000029919
156.2						
	WKTC	D31	DT	CP	SUMTER, SC	BLANK0000027544
206.5						
	WHRO-TV	D31	DT	CP	HAMPTON-NORFOLK, VA	BLANK0000026987
318.8						
	WOAY-TV	D31	DT	CP	OAK HILL, WV	BLANK0000028013
265.2						
	WAXN-TV	D32	DT	CP	KANNAPOLIS, NC	BLANK0000034696
100.9						
	WRPX-TV	D32	DT	CP	ROCKY MOUNT, NC	BLANK0000068236
152.9						

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
36143.5	4,174,964	35545.4	4,123,106	34243.4	3,764,675	30688.4	3,505,540	10.38	6.88

Undesired	Total IX	Unique IX, before	Unique IX, after
WUNU D31 DT LIC	4049.9	367,653	3555.0	259,135
WDBJ D30 DT CP	139.2	10,273	139.2	10,273	123.3	8,707
WKTC D31 DT CP	310.1	50,989	230.0	11,755	23.8	118
WHRO-TV D31 DT CP	116.1	8,707	43.8	1,921	27.9	1,530
WOAY-TV D31 DT CP	4.0	195	0.0	0	0.0	0
WAXN-TV D32 DT CP	595.8	236,844	527.9	198,387	487.8	189,700
WRPX-TV D32 DT CP	281.1	96,735	220.9	90,852	108.3	24,824

Interference to BLANK0000027544 CP scenario 1
**IX: 5.71% interference caused

	Call	Chan	Svc	Status	City, State	File Number
Distance						
Desired:	WKTC	D31	DT	CP	SUMTER, SC	BLANK0000027544

Undesireds:	WUNU	D31	DT	LIC	LUMBERTON, NC	BLEDT20091113ABG	174.8 km
	WAGT-CD	D30	DC	LIC	AUGUSTA, GA	BLANK0000063630	126.5
	WPCH-TV	D31	DT	CP	ATLANTA, GA	BLANK0000025264	331.4
	WGHP	D31	DT	CP	HIGH POINT, NC	BLANK0000034212	206.5
	WAXN-TV	D32	DT	CP	KANNAPOLIS, NC	BLANK0000034696	127.3

Service area	Terrain-limited	IX-free, before		IX-free, after		Percent New IX
27076.6	1,387,229	27012.7	1,386,779	25724.0	1,357,066	24853.8	1,279,529	3.38	5.71

Undesired	Total IX		Unique IX, before		Unique IX, after	
WUNU D31 DT LIC	1288.7	82,524			870.2	77,537
WAGT-CD D30 DC LIC	457.0	5,666	384.8	5,181	380.8	5,145
WPCH-TV D31 DT CP	64.1	335	8.0	2	8.0	2
WGHP D31 DT CP	880.0	24,207	748.1	22,662	393.7	18,642
WAXN-TV D32 DT CP	47.6	1,277	7.9	237	7.9	237

Interference to BLANK0000068236 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WRPX-TV	D32	DT	CP	ROCKY MOUNT, NC	BLANK0000068236	

Undesireds:	WUNU	D31	DT	LIC	LUMBERTON, NC	BLEDT20091113ABG	140.9 km
	WGHP	D31	DT	CP	HIGH POINT, NC	BLANK0000034212	152.9
	WAXN-TV	D32	DT	CP	KANNAPOLIS, NC	BLANK0000034696	241.9
	WMBF-TV	D32	DT	LIC	MYRTLE BEACH, SC	BLCDT20091105AAP	248.4

	WCAV	D32	DT	CP	CHARLOTTESVILLE, VA	BLANK0000034188
241.2						
	WPXV-TV	D32	DT	CP	NORFOLK, VA	BLANK0000068420
185.9						

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
28922.8	2,637,949	28870.8	2,634,141	28271.4	2,617,817	28243.7	2,615,679	0.10	0.08

Undesired	Total IX	Unique IX, before	Unique IX, after
WUNU D31 DT LIC	31.8	2,849	27.8	2,138
WGHP D31 DT CP	184.8	7,499	164.7	7,054	164.7	7,054
WAXN-TV D32 DT CP	16.2	1,206	4.0	251	4.0	251
WMBF-TV D32 DT LIC	4.0	25	0.0	0	0.0	0
WCAV D32 DT CP	203.1	4,303	115.5	1,888	115.5	1,888
WPXV-TV D32 DT CP	307.1	6,887	199.4	3,535	199.4	3,535

Interference to proposal scenario 1
2.87% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WUNU	D31	DT	LIC	LUMBERTON, NC	BLEDT20091113ABG	
Undesireds:	WSFX-TV	D30	DT	LIC	WILMINGTON, NC	BLCDT20110209AAO	107.9 km
	WFXG	D31	DT	LIC	AUGUSTA, GA	BLANK0000013467	299.1
	WUBX-CD	D31	DC	LIC	DURHAM, ETC., NC	BLANK0000001639	141.6
	WXII-TV	D31	DT	LIC	WINSTON-SALEM, NC	BLANK0000029093	212.6
	WAVY-TV	D31	DT	LIC	PORTSMOUTH, VA	BLCDT20010409ABP	320.5
	WITN-TV	D32	DT	LIC	WASHINGTON, NC	BLCDT20060615ABD	162.9

Service area		Terrain-limited		IX-free		Percent IX	
22782.9	1,120,792	22670.9	1,117,140	21846.8	1,085,113	3.63	2.87

Undesired	Total IX		Unique IX		Prcnt Unique IX	
WSFX-TV D30 DT LIC	8.0	159	8.0	159	0.04	0.01
WFXG D31 DT LIC	11.9	32	4.0	23	0.02	0.00
WUBX-CD D31 DC LIC	125.1	10,905	12.1	107	0.05	0.01
WXII-TV D31 DT LIC	796.0	31,721	675.1	20,737	2.98	1.86
WAVY-TV D31 DT LIC	20.2	819	0.0	0	0.00	0.00
WITN-TV D32 DT LIC	4.0	194	0.0	0	0.00	0.00