

***COMPREHENSIVE TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT***

**WWHL-LP - DECATUR, ALABAMA
FACILITY ID: 995**

DIGITAL NETWORKS—SOUTHEAST, LLC

MAY 2018

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5.29.2018

APPLICATION FOR CONSTRUCTION PERMIT - DISPLACEMENT

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Southeast, LLC** ("Southeast"), licensee of analog low-power television station WWHL-LP at Decatur, Alabama, and are in support of their application for construction permit.¹ This application is being filed as a displacement application due to realignment of the television band resulting from the Commission's *Incentive Auction*. WWHL-LP qualifies to file in this application due its displacement resulting from the construction permit for WXPB-TV at Gadsden, Alabama on channel 33.² The licensed facilities for WWHL-LP would cause interference to WXPB-TV at a level in excess of that permitted under the Commission's Rules.

WWHL-LP is currently licensed to operate on channel 33 as an analog translator facility. The licensed effective radiated power is 11.3 kW at a center of radiation of 291 meters above mean sea level utilizing a directional antenna. The proposed facility would operate as a digital LPTV station on channel 31 with a maximum effective radiated power of 1.85 kW at a center of radiation of 280.5 meters above mean sea level utilizing a directional antenna. The proposed antenna is a Kathrein-Scala PR-TV-31 "paraflector" antenna. It is proposed that this antenna be oriented at 70 degrees true.

The proposed facility would be located at the licensed site for WWHL-LP. No change in the site location is proposed under this application. Exhibit E-1 provides the output from *TVStudy* for

¹ The Facility ID for WWHL-LP at Decatur, Alabama is 995.

² The Facility ID for WXPB-TV at Gadsden, Alabama is 73312. Referenced construction permit under LMS File No. 0000034874.

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the proposed facility. This study demonstrates no outgoing interference check failures for the proposed facility.

The proposed facility would not constitute a significant environmental impact, and is exempt from environmental processing. The proposed antenna would be mounted to an existing tower that is registered with the Commission. The addition of the antenna to this tower would not increase the existing environmental impact already present from the tower.

Using the equations in Supplement A of *OET Bulletin 65*, the calculated worst-case power density at ground level assuming a downward radiation relative field of 0.3 is $6.85 \mu\text{W}/\text{cm}^2$. This value is less than the upper limit of the uncontrolled environment condition. Southeast certifies it will coordinate with all other users of the site to ensure that workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Coordination activities will include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

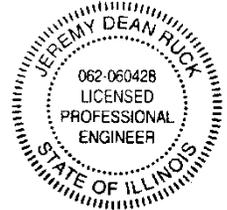
The proposed facility complies with the provisions of Section 74.709 of the Commission's Rules. No land mobile protection issues have been identified based on the tables in that section of the rules, or on the output of *TVStudy*. The proposed facility also complies with Sections 74.793(e)-(h) and 74.793(h) of the Commission's Rules.

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The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2019

Jeremy D. Ruck, PE
May 29, 2018

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Exhibit E-1 - TVStudy Interference Study

tvstudy v2.2.5 (4uoc83)

Database: 127.0.0.1, Study: WWHL-LP Channel 31 Licensed Site, Model: Longley-Rice
Start: 2018.05.29 09:59:29

Study created: 2018.05.29 09:59:29

Study build station data: LMS TV 2018-05-29

Proposal: WWHL-LP D31 LD CP DECATUR, AL
File number: BLANK0000022311
Facility ID: 995
Station data: User record
Record ID: 120
Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WNAL-LD	N27-	TX	LIC	SCOTTSBORO, AL	BLTT20060126AEL	101.8 km
No	WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDT20021219AAV	125.8
No	W30DV-D	D30	LD	CP	AUBURN, MS	BNPDTL20100510AFY	143.8
No	WCKV-LD	D30	LD	CP	CLARKSVILLE, TN	BPDTL20131230AQQ	219.8
No	WNAB	D30	DT	CP	NASHVILLE, TN	BLANK0000034797	188.2
No	WAXC-LD	D31	LD	LIC	ALEXANDER CITY, AL	BLDTL20110329ABN	211.9
No	WSFG-LD	D31	LD	APP	BERRY, AL	BLANK0000029418	108.8
No	WNCF	D31	DT	LIC	MONTGOMERY, AL	BLANK0000001319	272.9
No	WSRE	D31	DT	LIC	PENSACOLA, FL	BLEDT20060621AAS	444.7
No	WPCH-TV	D31	DT	CP	ATLANTA, GA	BLANK0000025264	268.7
No	WSB-TV	D31	LD	LIC	ATLANTA, GA	BLCDT20100429ADZ	313.8
No	WDMA-CD	D31	DC	LIC	MACON, GA	BLDTA20140602AAA	372.1
Yes	WPXA-TV	D31	DT	LIC	ROME, GA	BLANK0000001920	227.2
No	WMUB-LD	D31	LD	APP	WARNER ROBINS, GA	BLANK0000054344	385.6
No	NEW	D31	LD	APP	EVANSVILLE, IN	BNPDTL20090825AZX	363.2
No	NEW	D31	LD	APP	EVANSVILLE, IN	BNPDTL20090825AXM	363.2
No	WVUT	D31	DT	CP	VINCENNES, IN	BLANK0000027953	452.7
No	WDKY-TV	D31	DT	LIC	DANVILLE, KY	BLCDT20120308AAK	442.8
No	WKMA-TV	D31	DT	CP	MADISONVILLE, KY	BLANK0000034649	291.3
No	W31DZ-D	D31	LD	LIC	CLARKSDALE, MS	BLANK0000013969	354.2
No	WGBC	D31	DT	APP	MERIDIAN, MS	BLANK0000035926	291.3
No	WGBC	D31	DT	LIC	MERIDIAN, MS	BLCDT20071024AAK	291.3
No	W31DH-D	D31	LD	LIC	FRANKLIN, ETC, NC	BLDTT20090615AAP	352.9
No	W31AN-D	D31	LD	LIC	MURPHY, NC	BLDTT20090615AAV	287.1
No	WBXX-TV	D31	DT	CP	CROSSVILLE, TN	BLANK0000025087	302.4
No	WLMT	D31	DT	LIC	MEMPHIS, TN	BLCDT20050427ABN	255.2
No	WJDE-LD	D31	DC	LIC	NASHVILLE, TN	BLDTA20110627AAU	177.4
No	WAXC-LD	D32	LD	CP	ALEXANDER CITY, AL	BDISDTL20120831ABQ	211.9
No	WAAY-TV	D32	DT	LIC	HUNTSVILLE, AL	BLCDT20050701ABO	54.8
No	W32EQ-D	D32	LD	CP	TUSCALOOSA, AL	BLANK0000010947	177.7
No	WSB-TV	D32	DT	CP	ATLANTA, GA	BLANK0000025134	268.4
No	WSB-TV	D32	DT	APP	ATLANTA, GA	BLANK0000034812	268.4
No	W32ET-D	D32	LD	CP	AUBURN, MS	BNPDTL20100510AGA	143.8
No	W32EP-D	D32	LD	CP	TUPELO, MS	BDCCDTL20120625ACW	143.8
No	WMJN-LD	D32	LD	APP	HUNTSVILLE, RI	BLANK0000054506	54.8
No	W18BL-D	D32	DC	CP	ADAMSVILLE, TN	BLANK0000034140	134.9
No	WNPX-TV	D32	DT	CP	COOKEVILLE, TN	BLANK0000034404	188.7
No	W34DB	N34+	TX	LIC	LEWISBURG, TN	BLTTL20050309ABL	99.7
No	WBMG-LD	N38-	TX	LIC	Birmingham, AL	BLTTL19970804JG	127.8
No	W38EI-D	N38-	TX	LIC	SYLACAUGA, AL	BLTTL20120606AAN	158.0

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D31
Mask: Full Service

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Exhibit E-1 - TVStudy Interference Study

Latitude: 34 35 22.00 N (NAD83)
 Longitude: 87 6 17.00 W
 Height AMSL: 280.5 m
 HAAT: 85.8 m
 Peak ERP: 1.85 kW
 Antenna: PR-TV-31 70.0 deg
 Elev Pattrn: Generic

50.4 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.004 kW	103.5 m	8.4 km
45.0	0.164	102.6	20.5
90.0	0.342	100.2	24.1
135.0	0.005	79.7	7.4
180.0	0.004	75.7	6.9
225.0	0.002	67.3	5.2
270.0	0.001	57.7	4.8
315.0	0.004	99.7	7.9

Distance to Canadian border: 877.3 km

Distance to Mexican border: 1342.1 km

Conditions at FCC monitoring station: Powder Springs GA
 Bearing: 109.6 degrees Distance: 233.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
 Bearing: 296.4 degrees Distance: 1711.0 km

Study cell size: 1.00 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 BLANK0000001920 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WPXA-TV	D31	DT	LIC	ROME, GA	BLANK0000001920	
Undesireds:	WWHL-LP	D31	LD	CP	DECATUR, AL	BLANK0000022311	227.2 km
	WVLT-TV	D30	DT	LIC	KNOXVILLE, TN	BLCDDT20120103ABR	197.3
	WNCF	D31	DT	LIC	MONTGOMERY, AL	BLANK0000001319	311.5
	WFXG	D31	DT	LIC	AUGUSTA, GA	BLANK0000013467	278.1
	WDMA-CD	D31	DC	LIC	MACON, GA	BLDTA20140602AAA	187.0
	WDKY-TV	D31	DT	LIC	DANVILLE, KY	BLCDDT20120308AAK	397.6
	WAAY-TV	D32	DT	LIC	HUNTSVILLE, AL	BLCDDT20050701ABO	178.9

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
41348.6	6,592,757	37580.1	6,446,964	36158.2 6,360,588
				36157.2 6,360,568
				0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WWHL-LP D31 LD CP	5.0	74	1.0 20
WVLT-TV D30 DT LIC	13.9	19	13.0 19
WNCF D31 DT LIC	241.7	7,960	208.7 6,935
WFXG D31 DT LIC	488.9	33,250	403.5 26,978
WDMA-CD D31 DC LIC	322.8	35,232	240.3 28,913
WDKY-TV D31 DT LIC	11.0	263	10.0 263
WAAY-TV D32 DT LIC	459.1	16,856	434.9 16,240
			431.9 16,186

 Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WWHL-LP	D31	LD	CP	DECATUR, AL	BLANK0000022311	

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Undesireds:	WGBC	D31	DT	APP	MERIDIAN, MS	BLANK0000035926	291.3 km
	WLMT	D31	DT	LIC	MEMPHIS, TN	BLCDT20050427ABN	255.2
	Service area	Terrain-limited			IX-free	Percent IX	
	550.2	60,992	550.2	60,992	549.2	60,744	0.18 0.41
Undesired			Total IX			Unique IX	Prcnt Unique IX
WLMT D31 DT LIC		1.0	248	1.0	248	0.18	0.41

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