

APPLICATION FOR CONSTRUCTION PERMIT

WLOW-LD - CHARLESTON, SOUTH CAROLINA
FACILITY ID: 190344

DIGITAL NETWORKS—SOUTHEAST, LLC

JUNE 2020

APPLICATION FOR CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Southeast, LLC** ("Southeast"), licensee of digital low power television station WLOW-LD at Charleston, South Carolina, and are in support of their application for construction permit.¹ This application proposes a relocation of the licensed facility described under LMS File No. 0000115932. The proposed relocation would include a change in associated technical parameters, and the directional pattern envelope, but no change in the channel of operation.

WLOW-LD is currently licensed to operate on television channel 30 with a maximum effective radiated power of 4.38 kW at a center of radiation of 55 meters above mean sea level, 47.7 meters above ground level, utilizing a composite directional antenna system. The proposed facility would operate on channel 30 with a maximum effective radiated power of 2.0 kW at a center of radiation of 37.6 meters above mean sea level, 30 meters above ground level, utilizing a composite directional antenna. The proposed antenna system is comprised of two Kathrein-Scala PR-TV antennas with equal power division between them. One antenna is to be oriented at 50 degrees true, while the other is to be oriented at 270 degrees true.

The proposed technical parameters represent a minor change to the licensed facilities. Exhibit E-1 illustrates that the proposed 51 dBu F(50,90) service contour overlaps the licensed 51 dBu F(50,90) contour. Additionally, this map demonstrates that the proposed transmitter site is located within 30 miles of the licensed transmitter site. No change in the channel of operation is proposed under this application as was previously stated.

¹ The Facility ID for WLOW-LD at Charleston, South Carolina is 190344.

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Exhibit E-2 is the study output from *TVStudy* for the proposed facility. This study demonstrates that there are no outgoing interference check failures to any proposed or authorized facilities. This study was performed at a cell size resolution of 1.0 km, and a profile spacing increment of 1.0 km.

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

In addition, the proposed facility would not result in human exposure at ground level to radiofrequency radiation in excess of the Commission's safety standards. 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 $7.67 \mu\text{W}/\text{cm}^2$. This value is substantially below 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

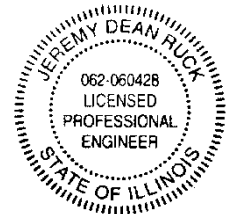
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the rules, or on the output of *TVStudy*. The proposed facility also complies with Sections 74.793(e)-(h) of the Commission's Rules.

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, 2021

Jeremy D. Ruck, PE
June 9, 2020

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6.9.2020

WLOW-LD

0000113469
Latitude: 32-43-34.40 N
Longitude: 080-37-01.60 W
ERP: 4.38 kW
Channel: 30
AMSL Height: 55.0 m
Horiz. Pattern: Directional
Prop Model: FCC Contour

WLOW-LD.X

PROPOSED
Latitude: 32-44-15.90 N
Longitude: 080-12-02.10 W
ERP: 2.00 kW
Channel: 30
AMSL Height: 37.6 m
Horiz. Pattern: Directional
Prop Model: FCC Contour

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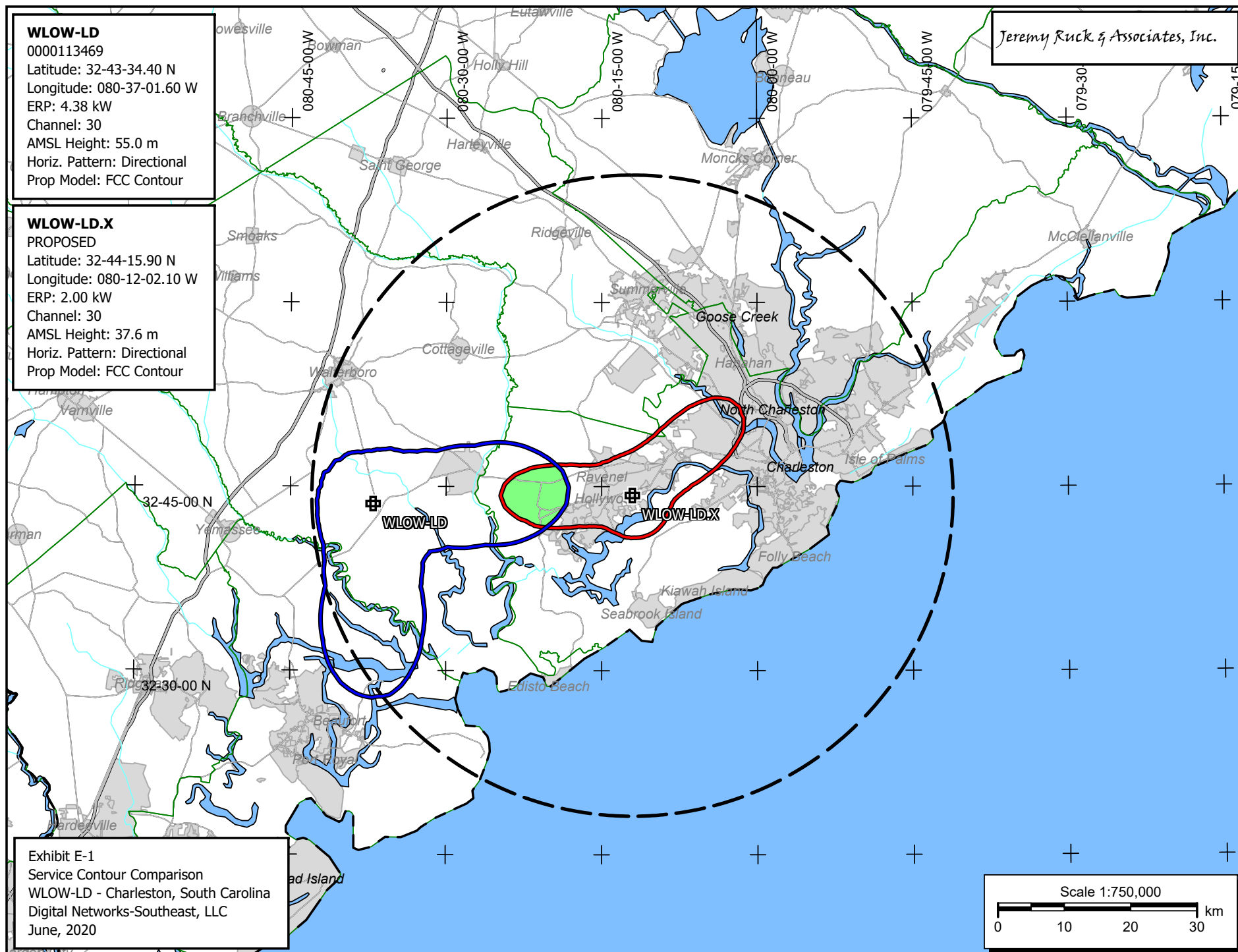


Exhibit E-2 - TVStudy Interference Study

tvstudy v2.2.5 (4uoc83)

Database: 127.0.0.1, Study: WLOW-LD Ch 30 ASRN 1045746 2 kW ERP 37.6 m AMSL PR-TV x2 1@50 1@270 1-1, Model: Longley-Rice
Start: 2020.06.09 15:07:28

Study created: 2020.06.09 15:07:28

Study build station data: LMS TV 2020-06-09

Proposal: WLOW-LD D30 LD LIC Charleston, SC
File number: BLANK0000113469
Facility ID: 190344
Station data: User record
Record ID: 159
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 | WSFX-TV | D29 | DT | LIC | WILMINGTON, NC | BLANK0000111706 | 242.6 km |
| No | WUNJ-TV | D29 | DT | LIC | WILMINGTON, NC | BLDPT20080821AAH | 253.7 |
| No | W29EC-D | D29 | LD | CP | FLORENCE, SC | BNPDTL20100409ABX | 137.6 |
| No | WAZS-LD | D29 | LD | LIC | NORTH CHARLESTON, SC | BLDTL20100916ADH | 23.1 |
| No | WRJA-TV | D29 | DT | LIC | SUMTER, SC | BLANK0000081209 | 127.3 |
| No | WLGA | D30 | DT | LIC | OPELIKA, AL | BLCDT20140827ABB | 432.6 |
| No | WEFS | D30 | DT | LIC | COCOA, FL | BLDPT20130801ABM | 466.1 |
| No | W30EE-D | D30 | LD | LIC | JACKSONVILLE, FL | BLANK0000090922 | 301.6 |
| No | W30EM-D | D30 | LD | CP | OCALA, FL | BLANK0000071927 | 428.1 |
| No | WBUD-LD | D30 | LD | CP | Atlanta, GA | BLANK0000071622 | 402.5 |
| No | WTBS-LD | D30 | LD | LIC | ATLANTA, GA | BLDTL20110105ABR | 402.5 |
| No | WAGT-CD | D30 | DC | LIC | AUGUSTA, GA | BLANK0000063630 | 169.2 |
| No | WMGT-TV | D30 | DT | LIC | MACON, GA | BLANK0000075816 | 314.3 |
| No | W30DW-D | D30 | LD | LIC | TIFTON, GA | BLDPT20141124ARP | 346.3 |
| No | WVCZ-LD | D30 | LD | LIC | VALDOSTA, GA | BLANK0000001216 | 370.8 |
| No | WVCZ-LD | D30 | LD | CP | VALDOSTA, GA | BLANK0000001343 | 367.5 |
| No | W30CR-D | D30 | LD | LIC | BISCOE, NC | BLDPT20101029AAJ | 284.2 |
| No | WUNC-TV | D30 | LD | LIC | CHAPEL HILL, NC | BLDPT20110705ACT | 360.8 |
| No | WSOC-TV | D30 | LD | LIC | CHARLOTTE, NC | BLCDT20100119ACN | 294.5 |
| No | WAXN-TV | D30 | LD | CP | KANNAPOLIS, NC | BLANK0000054241 | 319.7 |
| No | WUNU | D30 | DT | LIC | LUMBERTON, NC | BLANK0000114990 | 252.6 |
| No | W30ER-D | D30 | LD | CP | WILMINGTON, NC | BNPDTL20090825BVJ | 253.7 |
| No | W30DH-D | D30 | LD | CP | FLORENCE, SC | BNPDTL20100409ABY | 137.6 |
| No | WYFF | D30 | DT | LIC | GREENVILLE, SC | BLANK0000081030 | 344.8 |
| No | W30CV-D | D30 | DC | LIC | HILTON HEAD ISLAND, SC | BLDTL20110110AAR | 83.5 |
| No | W26DT-D | D31 | LD | CP | MYRTLE BEACH, SC | BLANK0000112196 | 143.7 |
| No | WJNT-LD | D31 | LD | LIC | NORTH CHARLESTON, SC | BLDTL20100916ADG | 23.1 |
| No | WKTC | D31 | DT | LIC | SUMTER, SC | BLANK0000093003 | 161.9 |
| No | WSCG-LD | N32+ | TX | LIC | BEAUFORT, ETC., SC | BLTT19970401JB | 62.8 |

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D30
Mask: Full Service
Latitude: 32 44 15.90 N (NAD83)
Longitude: 80 12 2.10 W
Height AMSL: 37.6 m
HAAT: 33.1 m
Peak ERP: 2.00 kW
Antenna: SCA PR-TV x2 Array 1@50 1@270 0.0 deg
Elev Pattern: Generic

50.3 dBu contour:

Azimuth ERP HAAT Distance

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Exhibit E-2 - TVStudy Interference Study

| | | | |
|---------|----------|--------|--------|
| 0.0 deg | 0.021 kW | 33.8 m | 7.0 km |
| 45.0 | 1.79 | 34.3 | 21.3 |
| 90.0 | 0.025 | 33.1 | 7.2 |
| 135.0 | 0.014 | 34.6 | 6.5 |
| 180.0 | 0.014 | 35.2 | 6.6 |
| 225.0 | 0.017 | 35.6 | 6.8 |
| 270.0 | 2.00 | 27.5 | 20.8 |
| 315.0 | 0.026 | 30.4 | 7.0 |

Distance to Canadian border: 1012.3 km

Distance to Mexican border: 1783.1 km

Conditions at FCC monitoring station: Powder Springs GA
 Bearing: 287.8 degrees Distance: 438.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
 Bearing: 297.3 degrees Distance: 2373.8 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 proposal scenario 1
 10.52% interference received

| | Call | Chan | Svc | Status | City, State | File Number | Distance |
|-------------|---------|------|-----|--------|----------------------|------------------|----------|
| Desired: | WLOW-LD | D30 | LD | LIC | Charleston, SC | BLANK0000113469 | |
| Undesireds: | WAZS-LD | D29 | LD | LIC | NORTH CHARLESTON, SC | BLDTL20100916ADH | 23.1 km |
| | WJNI-LD | D31 | LD | LIC | NORTH CHARLESTON, SC | BLDTL20100916ADG | 23.1 |

| Service area | Terrain-limited | IX-free | Percent IX |
|--------------|-----------------|--------------|------------|
| 404.2 61,875 | 404.2 61,875 | 396.2 55,367 | 1.98 10.52 |

| Undesired | Total IX | Unique IX | Prcnt Unique IX |
|--|----------|-----------|-----------------|
| WAZS-LD D29 LD LIC 8.0 6,508 0.0 0 0.00 0.00 | | | |
| WJNI-LD D31 LD LIC 8.0 6,508 0.0 0 0.00 0.00 | | | |

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