

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

**WKXT-LD – KNOXVILLE, TENNESSEE
FACILITY ID: 67926**

DIGITAL NETWORKS–SOUTHEAST, LLC

MAY 2018

APPLICATION FOR CONSTRUCTION PERMIT - DISPLACEMENT

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Southeast, LLC** ("Southeast"), licensee of low power digital television translator station WKXT-LD at Morristown, Tennessee, and are in support of their application for construction permit.¹ This application is being filed as a displacement application due to a required change in the channel of operation resulting from the Commission's incentive auction. In addition to the change in the channel of operation, Southeast also respectfully requests a small relocation of the facility, change in the community of license from Morristown to Knoxville, and other associated changes to the technical parameters.

WKXT-LD is currently licensed to operate on channel 43 as a digital low-power television. The facility operates with an effective radiated power of 440 Watts at a center of radiation of 431 meters above mean sea level utilizing a directional antenna.² An outstanding construction permit specifying different parameters under FCC File BPDTL-20130115ADE also exists. The licensed channel of operation is out of core for the post repack environment, and so, Southeast seeks authorization to change channel.

The proposed facility would be located 31.4 kilometers from the licensed site. The proposed facility would operate on channel 33 with a maximum effective radiated power of 9.0 kW at a center of radiation of 620 meters above mean sea level utilizing a directional antenna. The antenna proposed for use by the facility is a PSI model PSILP12AOC. This antenna utilizes the "omnioid" pattern, and is oriented with the major lobe at 225 degrees true.

¹ The Facility ID for WKXT-LD is 67926.

² See FCC File No.BLDTT-20121214ADT.

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The proposed operation on channel 33 would not result in interference to other proposed, authorized, or licensed facilities in excess of that permitted under the Commission's Rules. Exhibit E-1 provides a tabular output from the *TVStudy* software package. As indicated, no outgoing interference failures would exist.

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.

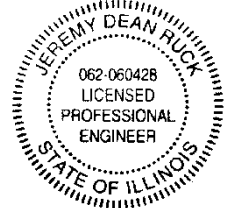
Using the equations in Supplement A of *OET Bulletin 65*, the calculated worst-case power density at ground level assuming a downward radiation relative field of 0.3 is $0.573 \mu\text{W}/\text{cm}^2$. This value is less than the upper limit of the uncontrolled environment condition upper limit. Southeast 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.

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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 10, 2018

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5.10.2018