

# ***APPLICATION FOR CONSTRUCTION PERMIT***

W13DS-D – CLEVELAND, OHIO  
FACILITY ID: 68016  
CHANNEL 13 – 0.300 kW ERP DA

DIGITAL NETWORKS-NORTHEAST, LLC

SEPTEMBER 2021

## **APPLICATION FOR CONSTRUCTION PERMIT**

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Northeast, LLC** ("Northeast"), licensee of digital low power television station W13DS-D at Cleveland, Ohio, and are in support of their application for construction permit to modify that facility.<sup>1</sup> This application seeks to modify the current license for the facility, which is assigned LMS File No. 0000120701.

W13DS-D is licensed to operate on television channel 13 with a maximum effective radiated power of 0.3 kW at a center of radiation of 306.9 meters above mean sea level, 44.2 meters above ground, utilizing a composite directional antenna. The proposed facility would operate on television channel 13 with a maximum effective radiated power of 0.3 kW at a center of radiation of 281.8 meters above mean sea level, 30 meters above ground level, also with a composite directional antenna. The antenna array proposed for use by W13DS-D is to consist of two Kathrein-Scala CL-713 antennas. These antennas are to employ equal power division. One is to be oriented at 90 degrees true, and the other at 230 degrees true.

The map in Exhibit E-1 is a comparison between the licensed and proposed technical parameters, and illustrates the 48 dBu F(50,90) service contour for each set of parameters. This application proposes a relocation of the transmitter. As this map demonstrates, there is a substantial area of overlap between the two contours. Additionally, the map also demonstrates that the proposed site is located within 30 miles of the licensed site.

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<sup>1</sup> The Facility ID for W13DS-D at Cleveland, Ohio is 68016.

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Exhibit E-2 is the output from *TVStudy* for the proposed technical parameters. This study demonstrates that the proposed technical parameters would not fail interference checks to other relevant proposed and authorized facilities. This study was completed using a cell size of 1.0 km at a profile spacing of 1.0 kilometer. Although the proposed facility would be located in proximity to Canada, as is indicated in this study, the predicted 21.00 dBu interfering contour does not cross the Canadian border. The proposed facility is not located within the West Virginia quiet zone and is located at a significant distance from both the Table Mountain receiving zone and the Commission's Canandaigua, New York monitoring station.

The proposed antenna would be mounted to an existing tower that is registered with the Commission, and has been assigned 1015025 as its Antenna Structure Registration Number. The addition of the antenna to this tower would not increase the already existing environmental impact present from the tower. 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  $1.15 \mu\text{W}/\text{cm}^2$ . This value is less than the upper limit of the uncontrolled environment condition. Northeast 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.

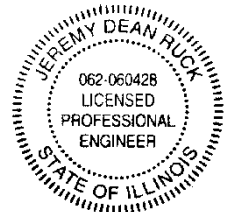
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The proposed facility complies with the provisions of Section 74.709 of the Commission's Rules. No land mobile protection issues have been identified based on the tables in that section of the rules, or on the output of *TVStudy*. The proposed facility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

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  
September 13, 2021

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9.13.2021

**W13DS-D**

0000120701

Latitude: 41-54-20 N

Longitude: 080-34-15 W

ERP: 0.30 kW

Channel: 13

Frequency: 213.0 MHz

AMSL Height: 306.9 m

Horiz. Pattern: Directional

Prop Model: FCC Contour

**W13DS-D.X**

PROPOSED

Latitude: 41-45-26 N

Longitude: 081-02-29 W

ERP: 0.30 kW

Channel: 13

Frequency: 213.0 MHz

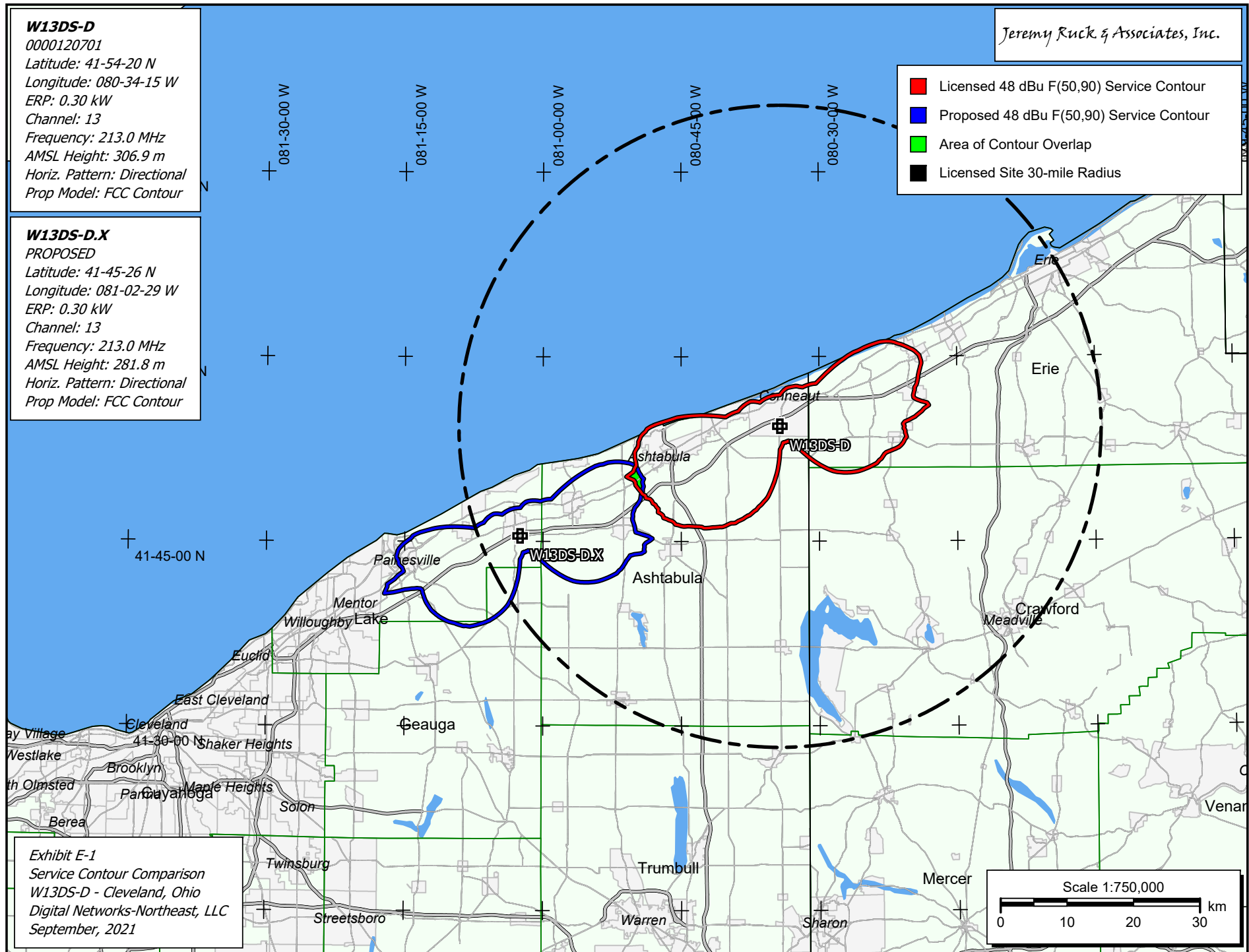
AMSL Height: 281.8 m

Horiz. Pattern: Directional

Prop Model: FCC Contour

Jeremy Ruck &amp; Associates, Inc.

- Licensed 48 dBu F(50,90) Service Contour
- Proposed 48 dBu F(50,90) Service Contour
- Area of Contour Overlap
- Licensed Site 30-mile Radius



## Exhibit E-2 - TVStudy Interference Study

tvstudy v2.2.5 (4uoc83)

Database: 127.0.0.1, Study: W13DS CH13 ASRN 1015025 281.8 m AMSL 0.3 kW CL-713 x2 Array 1@90 1@230, Model: Longley-Rice  
Start: 2021.09.13 16:47:46

Study created: 2021.09.13 16:47:46

Study build station data: LMS TV 2021-09-13

Proposal: W13DS-D D13 LD APP Cleveland, OH  
File number: BLANK0000120701  
Facility ID: 68016  
Station data: User record  
Record ID: 378  
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  | WAKN-LP | N11- | TX  | LIC    | AKRON, OH        | BLTVL20081031ABD | 89.2 km  |
| No  | WMFD-TV | D12  | DT  | LIC    | MANSFIELD, OH    | BLCDT20081112ALJ | 171.9    |
| Yes | WICU-TV | D12  | DT  | LIC    | ERIE, PA         | BLANK0000074553  | 86.8     |
| No  | WBPA-LD | D12+ | LD  | LIC    | PITTSBURGH, PA   | BLANK0000125159  | 171.4    |
| No  | WTHR    | D13  | DT  | LIC    | INDIANAPOLIS, IN | BLANK0000153712  | 477.5    |
| No  | WTHR    | D13  | DT  | APP    | INDIANAPOLIS, IN | BPCDT20130702ABM | 477.5    |
| No  | WTSP    | D13  | DT  | LIC    | ASHLAND, KY      | BLANK0000117277  | 388.6    |
| No  | WZZM    | D13  | DT  | LIC    | GRAND RAPIDS, MI | BLCDT20100726AKV | 434.6    |
| No  | WNYI    | D13  | DT  | LIC    | ITHACA, NY       | BLANK0000080187  | 396.0    |
| No  | WDSS-LD | D13  | LD  | CP     | SYRACUSE, NY     | BLANK0000156914  | 396.0    |
| No  | WDSS-LD | D13  | LD  | LIC    | SYRACUSE, NY     | BLANK0000157036  | 396.0    |
| No  | WIVX-LD | D13  | LD  | LIC    | AKRON, OH        | BLANK0000124344  | 101.6    |
| No  | WTVG    | D13  | DT  | LIC    | TOLEDO, OH       | BLANK0000143483  | 197.0    |
| No  | W13DP-D | D13  | LD  | LIC    | YOUNGSTOWN, OH   | BLANK0000090576  | 82.4     |
| No  | WVFX    | D13  | DT  | CP     | CLARKSBURG, WV   | BLANK0000145139  | 279.4    |
| No  | WVUX-LD | D13  | LD  | LIC    | FAIRMONT, WV     | BLANK0000021955  | 282.9    |
| No  | WWPX-TV | D13  | DT  | LIC    | MARTINSBURG, WV  | BLANK0000117578  | 393.3    |

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D13  
Mask: Full Service  
Latitude: 41 45 26.00 N (NAD83)  
Longitude: 81 2 29.00 W  
Height AMSL: 281.8 m  
HAAT: 37.7 m  
Peak ERP: 0.300 kW  
Antenna: SCA-CL-713 x2 Array 1@90 1@230 0.0 deg  
Elev Pattern: Generic

48.0 dBu contour:

| Azimuth | ERP      | HAAT   | Distance |
|---------|----------|--------|----------|
| 0.0 deg | 0.000 kW | 98.2 m | 4.3 km   |
| 45.0    | 0.011    | 83.6   | 12.8     |
| 90.0    | 0.300    | 37.6   | 19.4     |
| 135.0   | 0.009    | -3.8   | 7.3      |
| 180.0   | 0.000    | -66.6  | 3.5      |
| 225.0   | 0.286    | -13.4  | 17.4     |
| 270.0   | 0.042    | 70.0   | 15.9     |
| 315.0   | 0.000    | 95.9   | 4.8      |

Proposal 21.00 dBu contour does not cross Canadian border  
Distance to Canadian border: 52.8 km

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## Exhibit E-2 - TVStudy Interference Study

Distance to Mexican border: 2255.2 km

Conditions at FCC monitoring station: Canandaigua NY  
Bearing: 66.2 degrees Distance: 335.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 273.0 degrees Distance: 2031.2 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 BLANK0000074553 LIC scenario 1

|                    | Call         | Chan    | Svc             | Status  | City, State       | File Number      | Distance       |
|--------------------|--------------|---------|-----------------|---------|-------------------|------------------|----------------|
| Desired:           | WICU-TV      | D12     | DT              | LIC     | ERIE, PA          | BLANK0000074553  |                |
| Undesireds:        | W13DS-D      | D13     | LD              | APP     | Cleveland, OH     | BLANK0000120701  | 86.8 km        |
|                    | WMFD-TV      | D12     | DT              | LIC     | MANSFIELD, OH     | BLCDD20081112ALJ | 255.8          |
|                    | WYOU         | D12     | DT              | LIC     | SCRANTON, PA      | BLANK0000116962  | 360.8          |
|                    | WBOY-TV      | D12     | DT              | LIC     | CLARKSBURG, WV    | BLANK0000003150  | 306.8          |
|                    | Service area |         | Terrain-limited |         | IX-free, before   | IX-free, after   | Percent New IX |
| 18976.5            | 740,488      | 17669.1 | 677,635         | 17449.9 | 671,938           | 17439.9          | 671,470        |
| 6189.2             | 54,128       | 6189.2  | 54,128          | 6189.2  | 54,128            | 6189.2           | 54,128         |
| Canada)            |              |         |                 |         |                   |                  | 0.00 0.00 (in  |
| Undesired          |              |         | Total IX        |         | Unique IX, before | Unique IX, after |                |
| W13DS-D D13 LD APP |              | 10.0    | 468             |         | 10.0              | 468              |                |
| WMFD-TV D12 DT LIC |              | 201.1   | 5,380           |         | 167.9             | 4,535            |                |
| WYOU D12 DT LIC    |              | 4.0     | 0               |         | 4.0               | 0                |                |
| WBOY-TV D12 DT LIC |              | 47.3    | 1,162           |         | 14.1              | 317              |                |

### ----- Interference to proposal scenario 1

|          | Call         | Chan  | Svc             | Status | City, State   | File Number     | Distance |
|----------|--------------|-------|-----------------|--------|---------------|-----------------|----------|
| Desired: | W13DS-D      | D13   | LD              | APP    | Cleveland, OH | BLANK0000120701 |          |
|          | Service area |       | Terrain-limited |        | IX-free       | Percent IX      |          |
| 485.7    | 62,093       | 485.7 | 62,093          | 485.7  | 62,093        | 0.00            | 0.00     |

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