

# *APPLICATION FOR CONSTRUCTION PERMIT*

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W48CH – CLEVELAND, OHIO  
FACILITY ID: 68016

DIGITAL NETWORKS–NORTHEAST, LLC

JANUARY 2020

## **APPLICATION FOR CONSTRUCTION PERMIT - DISPLACEMENT**

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Northeast, LLC** ("Northeast"), licensee of low power television station W48CH at Erie, Pennsylvania, and are in support of their application for construction permit for displacement.<sup>1</sup> The current license for the facility is under FCC File No. BLTT-19980723JD. This application seeks to relocate the transmitter site, as well as change the community of license.

The licensed facility operates on television channel 48 with a maximum effective radiated power of 10.2 kW at a center of radiation of 517 meters above mean sea level, 109 meters above ground level, utilizing a non-directional antenna. The proposed facility would operate on television channel 13 with a maximum effective radiated power of 300 Watts at a center of radiation of 306.9 meters above mean sea level, 44.2 meters above ground level, utilizing a composite directional antenna. The proposed composite array consists of two Kathrein-Scala CL-713 antennas with equal power division. One of the elements is oriented at 90 degrees true, while the other is oriented at 230 degrees true.

Exhibits E-1 and E-2 illustrate a service contour comparison between the licensed analog facility and the proposed displaced digital facility. As these two maps indicate, the predicted 48 dBu F(50,90) contour of the displaced digital facility overlaps the 74 dBu F(50,50) service contour of the licensed analog facility. Additionally, these two maps also demonstrate that the proposed transmitter site location is within 30 miles of the licensed analog site.

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<sup>1</sup> The Facility ID for W48CH is 68016.

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The proposed site is located in proximity to Lake Erie, and by extension to Canada. Exhibit E-3 illustrates the proposed site along with the predicted 21 dBu F(50,10) contour resulting from the proposed technical parameters. As this map demonstrates, the contour does not cross the border between the United States and Canada. As a result, it is respectfully submitted that coordination with Industry Canada is not required.

Exhibit E-4 is the output from *TVStudy* for the proposed facility. This study demonstrates that there are no outgoing interference check failures to any proposed or authorized facility. This study was performed at a cell size resolution of 1.0 kilometers, and a profile spacing increment of 0.1 kilometers.

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 already existing environmental impact present from the tower.

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 0.2 is 506  $\mu\text{W}/\text{cm}^2$ . This value is substantially below 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.

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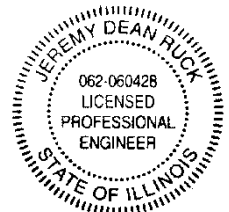
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Coordination activities will include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

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,

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  
January 26, 2020

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1.26.2020

**W48CH**

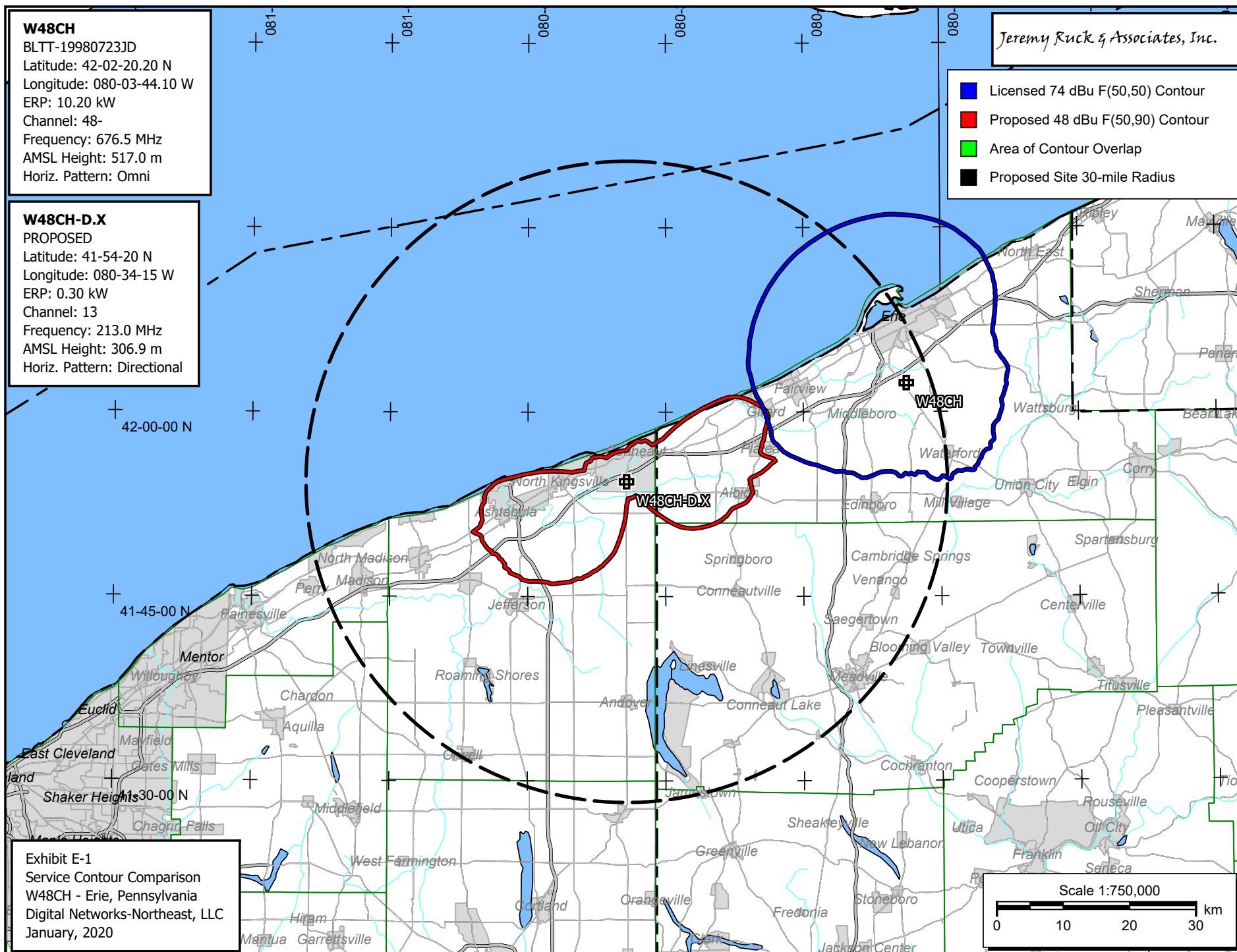
BLTT-19980723JD  
Latitude: 42-02-20.20 N  
Longitude: 080-03-44.10 W  
ERP: 10.20 kW  
Channel: 48-  
Frequency: 676.5 MHz  
AMSL Height: 517.0 m  
Horiz. Pattern: Omni

**W48CH-D.X**

PROPOSED  
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

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- Licensed 74 dBu F(50,50) Contour
- Proposed 48 dBu F(50,90) Contour
- Area of Contour Overlap
- Proposed Site 30-mile Radius



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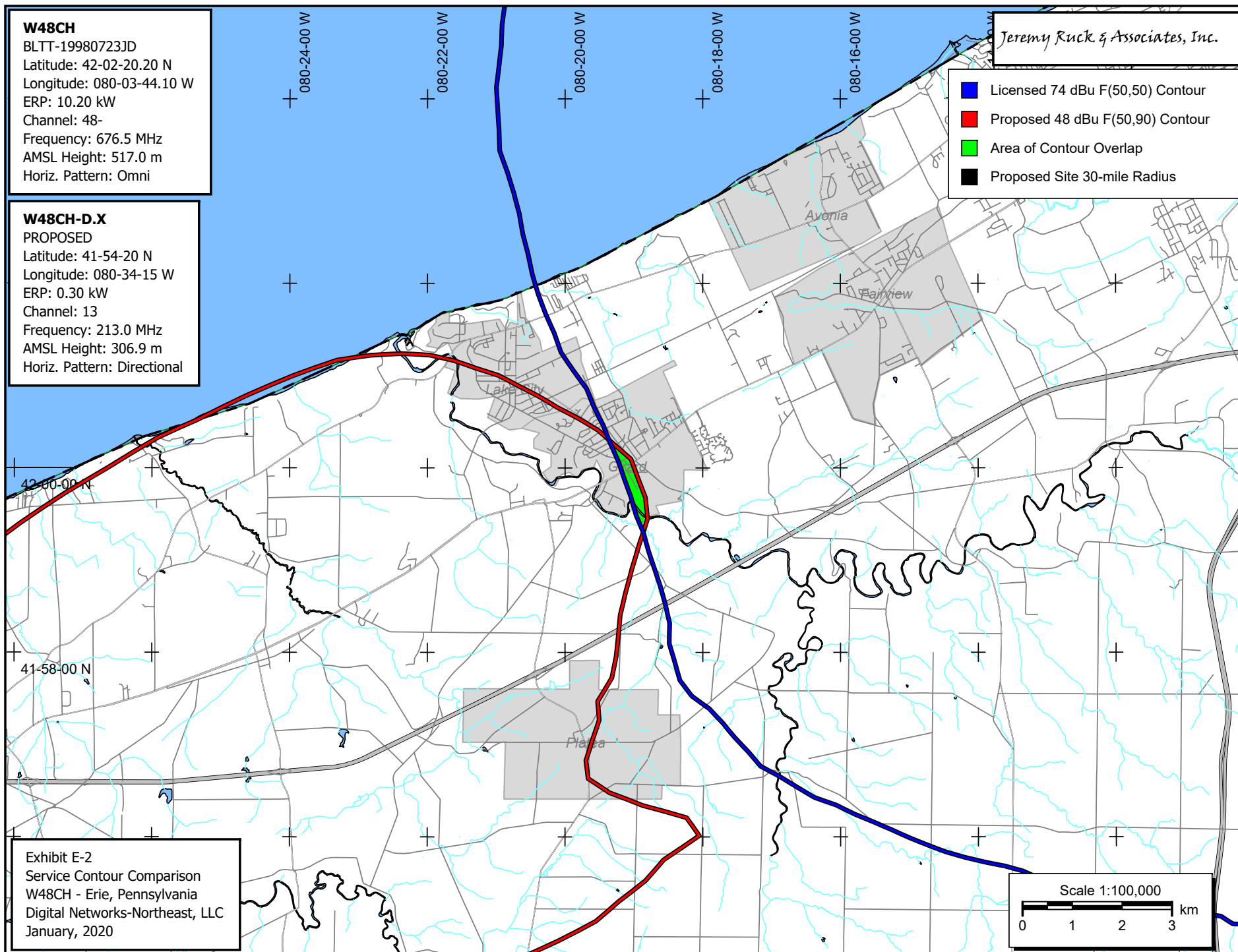


Exhibit E-2  
Service Contour Comparison  
W48CH - Erie, Pennsylvania  
Digital Networks-Northeast, LLC  
January, 2020

**W48CH**

BLTT-19980723JD  
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Canadian Border with  
the United States

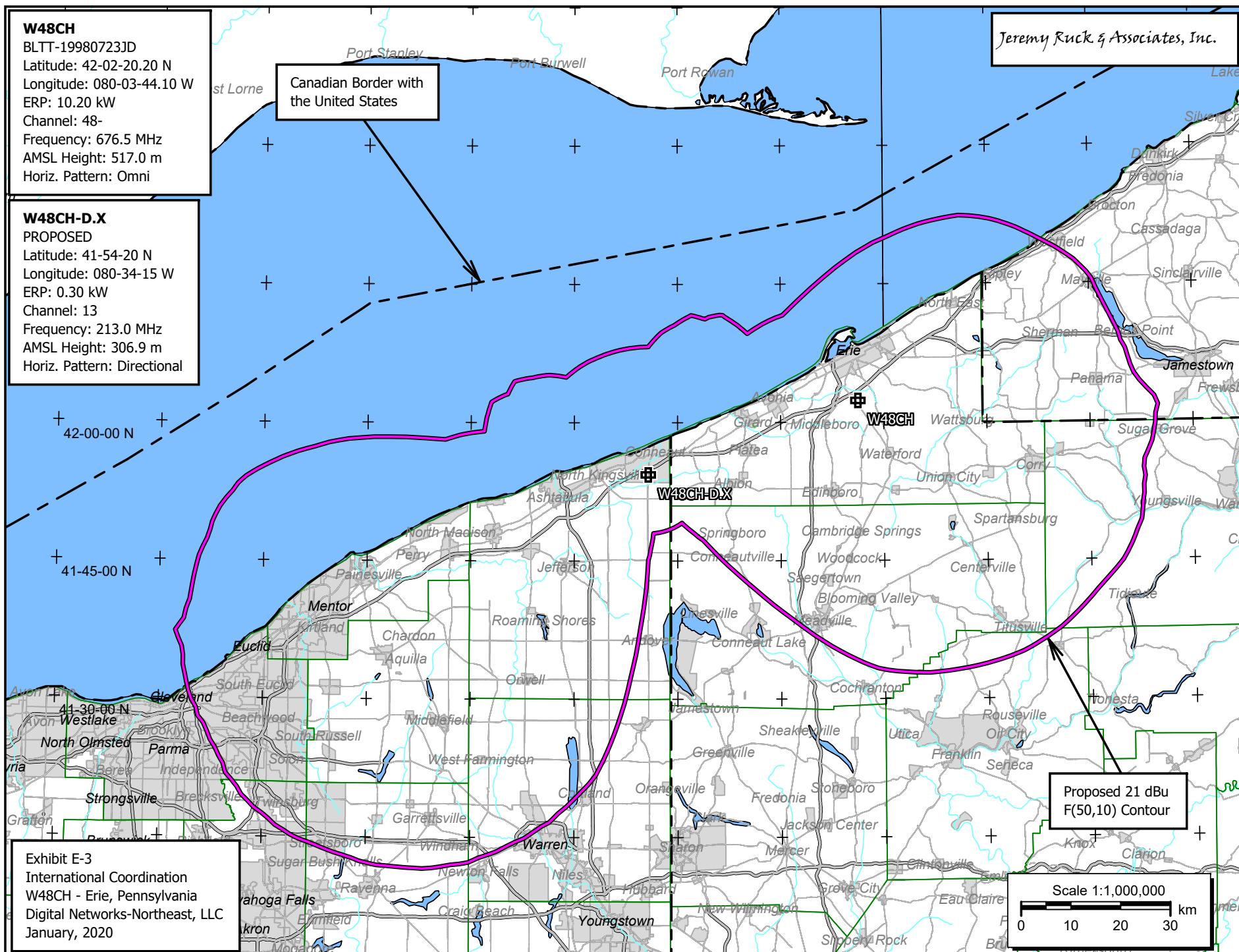
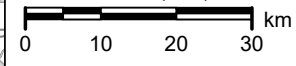


Exhibit E-3  
International Coordination  
W48CH - Erie, Pennsylvania  
Digital Networks-Northeast, LLC  
January, 2020

Proposed 21 dBu  
F(50,10) Contour

Scale 1:1,000,000



## Exhibit E-4 - TVStudy Interference Study

tvstudy v2.2.5 (4uoc83)

Database: 127.0.0.1, Study: W48CH Ch 13 DISP ASRN 1019667 Cl-713 x2 1@90 1@230, Model: Longley-Rice  
Start: 2020.01.26 15:12:56

Study created: 2020.01.26 15:12:56

Study build station data: LMS TV 2020-01-26

Proposal: W48CH D13 LD APP ERIE, PA  
File number: BDFCDTL20120130AAX  
Facility ID: 68016  
Station data: User record  
Record ID: 97  
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 | WMFD-TV | D12  | DT  | LIC    | MANSFIELD, OH    | BLCDT20081112ALJ | 212.8 km |
| No | WICU-TV | D12  | DT  | LIC    | ERIE, PA         | BLANK0000074553  | 44.5     |
| No | WBPA-LP | D12+ | LD  | CP     | PITTSBURGH, PA   | BLANK0000083787  | 170.0    |
| No | WTSF    | D13  | DT  | CP     | ASHLAND, KY      | BLANK0000029774  | 417.5    |
| No | WJZ-TV  | D13  | DT  | LIC    | BALTIMORE, MD    | BLCDT20110914AAS | 437.0    |
| No | WZZM    | D13  | DT  | LIC    | GRAND RAPIDS, MI | BLCDT20100726AKV | 463.9    |
| No | WNYI    | D13  | DT  | LIC    | ITHACA, NY       | BLANK0000080187  | 353.8    |
| No | WIVX-LD | D13  | LD  | LIC    | LOUDONVILLE, OH  | BLANK0000058273  | 134.5    |
| No | WTVG    | D13  | DT  | APP    | TOLEDO, OH       | BLANK0000036074  | 236.9    |
| No | WTVG    | D13  | DT  | LIC    | TOLEDO, OH       | BLCDT20110415ABN | 236.9    |
| No | W13DP-D | D13  | LD  | LIC    | YOUNGSTOWN, OH   | BLANK0000090576  | 91.9     |
| No | WYOU    | D13  | DT  | LIC    | SCRANTON, PA     | BLCDT20051123AJU | 398.9    |
| No | WVFX    | D13  | DT  | CP     | CLARKSBURG, WV   | BLANK0000034189  | 290.2    |
| No | WVUX-LD | D13  | LD  | LIC    | Fairmont, WV     | BLANK0000021955  | 293.2    |
| No | WOWK-TV | D13  | DT  | LIC    | HUNTINGTON, WV   | BLANK0000003187  | 402.6    |
| No | WWPX-TV | D13  | DT  | CP     | MARTINSBURG, WV  | BLANK0000078091  | 379.0    |

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D13  
Mask: Full Service  
Latitude: 41 54 20.00 N (NAD83)  
Longitude: 80 34 15.00 W  
Height AMSL: 306.9 m  
HAAT: 72.9 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 | 128.8 m | 4.7 km   |
| 45.0    | 0.011    | 109.5   | 14.8     |
| 90.0    | 0.300    | 35.4    | 18.8     |
| 135.0   | 0.009    | 11.1    | 7.3      |
| 180.0   | 0.000    | 23.5    | 3.5      |
| 225.0   | 0.286    | 46.7    | 21.3     |
| 270.0   | 0.042    | 101.5   | 19.7     |
| 315.0   | 0.000    | 126.5   | 5.4      |

Proposal 21.00 dBu contour does not cross Canadian border

Distance to Canadian border: 65.0 km

Distance to Mexican border: 2297.0 km

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## Exhibit E-4 - TVStudy Interference Study

Conditions at FCC monitoring station: Canandaigua NY  
Bearing: 66.4 degrees Distance: 293.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 272.9 degrees Distance: 2069.2 km

Study cell size: 1.00 km  
Profile point spacing: 0.10 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 proposal scenario 1

|             | Call         | Chan   | Svc | Status          | City, State | File Number        | Distance   |
|-------------|--------------|--------|-----|-----------------|-------------|--------------------|------------|
| Desired:    | W48CH        | D13    | LD  | APP             | ERIE, PA    | BDFCDTL20120130AAX |            |
| Undesireds: | WTVG         | D13    | DT  | APP             | TOLEDO, OH  | BLANK0000036074    | 236.9 km   |
|             | Service area |        |     | Terrain-limited |             | IX-free            | Percent IX |
|             | 629.5        | 61,519 |     | 629.5           | 61,519      | 629.5              | 61,519     |
|             |              |        |     |                 |             | 0.00               | 0.00       |

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