

APPLICATION FOR CONSTRUCTION PERMIT

**W48CH – CLEVELAND, OHIO
FACILITY ID: 68016**

DIGITAL NETWORKS–NORTHEAST, LLC

JANUARY 2020

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1.26.2020

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.¹ 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.

¹ 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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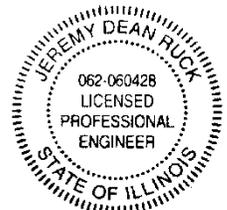
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Coordination activities will include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

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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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

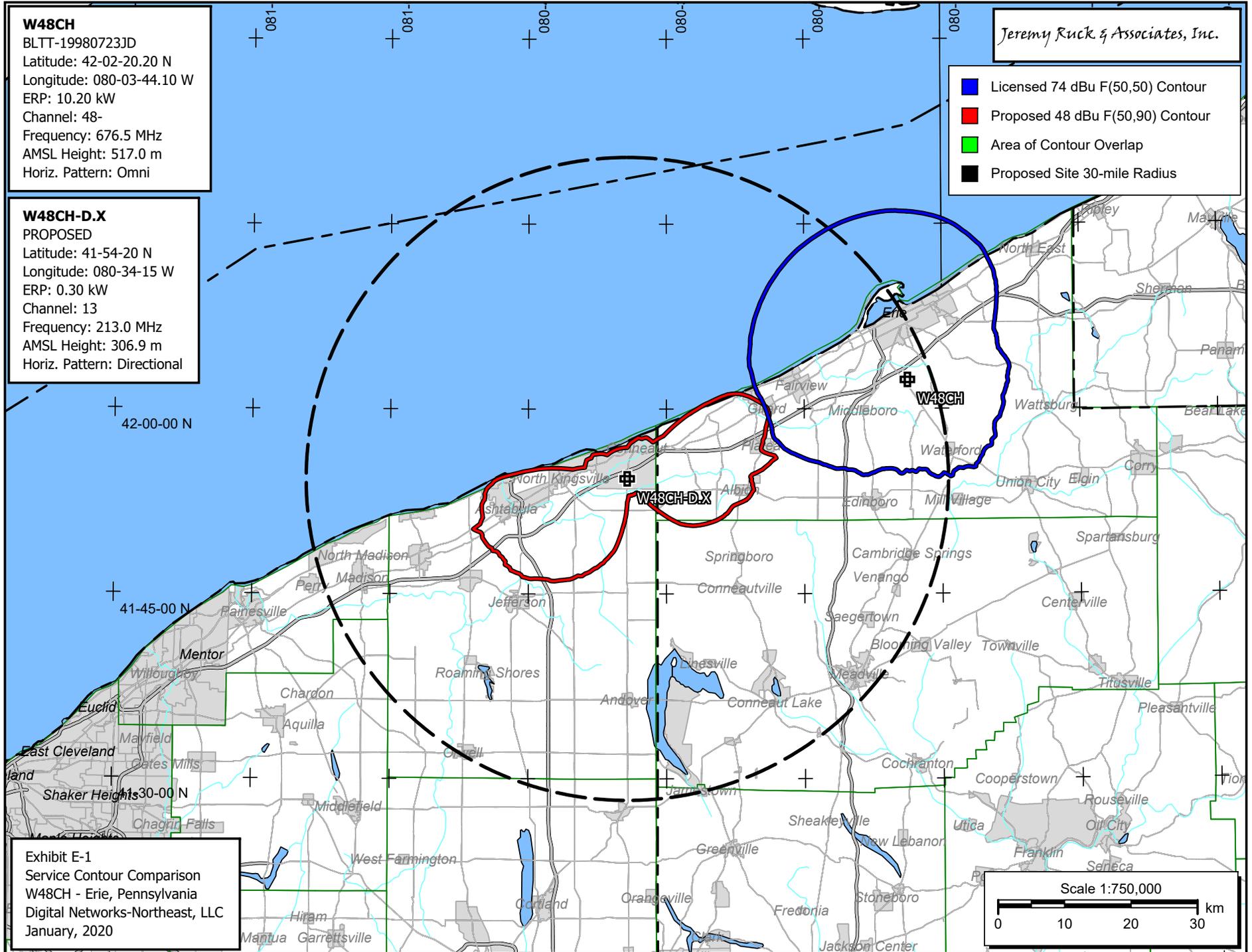
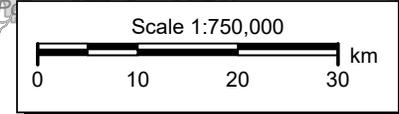


Exhibit E-1
Service Contour Comparison
W48CH - Erie, Pennsylvania
Digital Networks-Northeast, LLC
January, 2020



W48CH
BLTT-19980723JD
Latitude: 42-02-20.20 N
Longitude: 080-03-44.10 W
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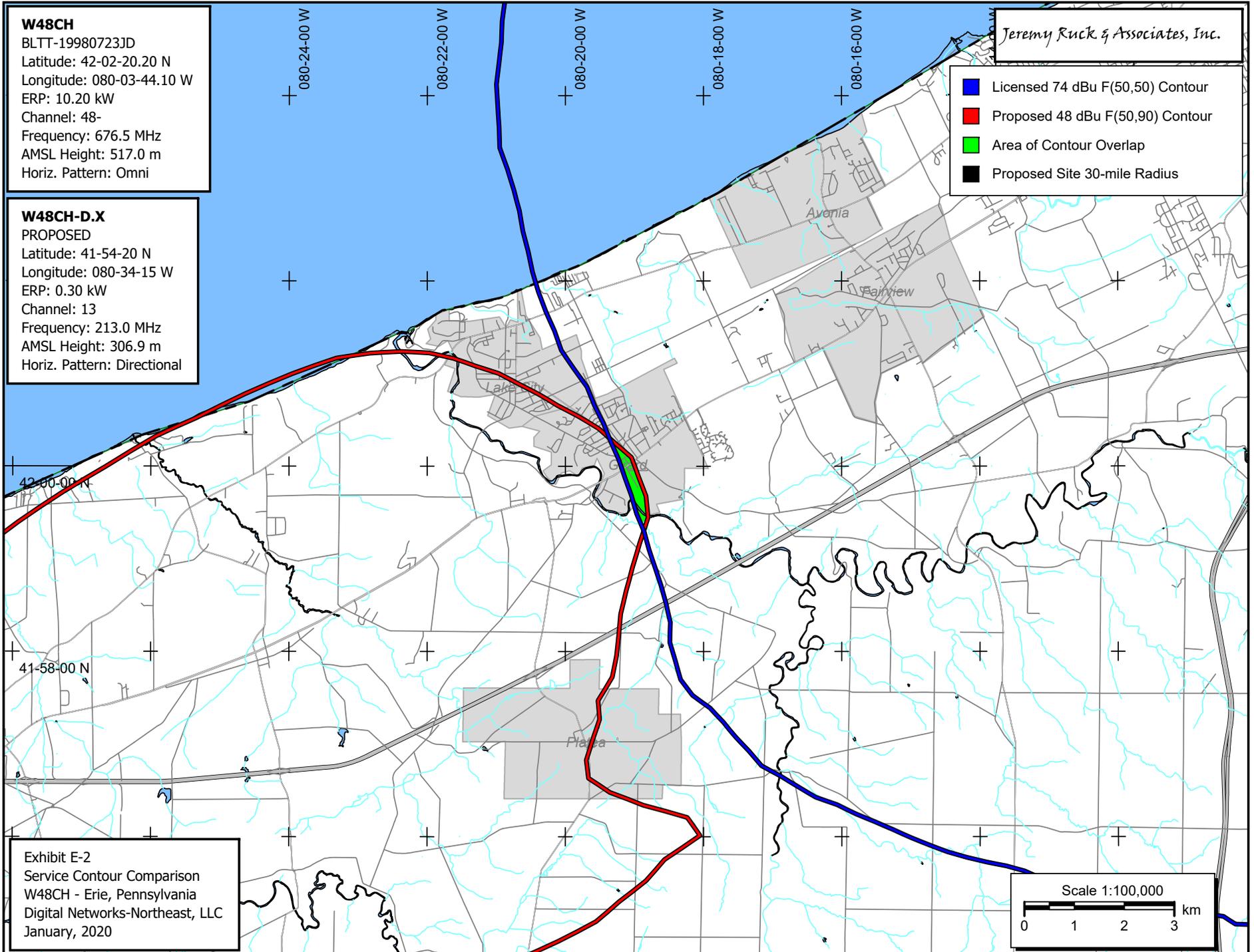
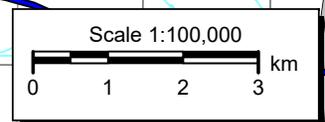


Exhibit E-2
Service Contour Comparison
W48CH - Erie, Pennsylvania
Digital Networks-Northeast, LLC
January, 2020



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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Canadian Border with
the United States

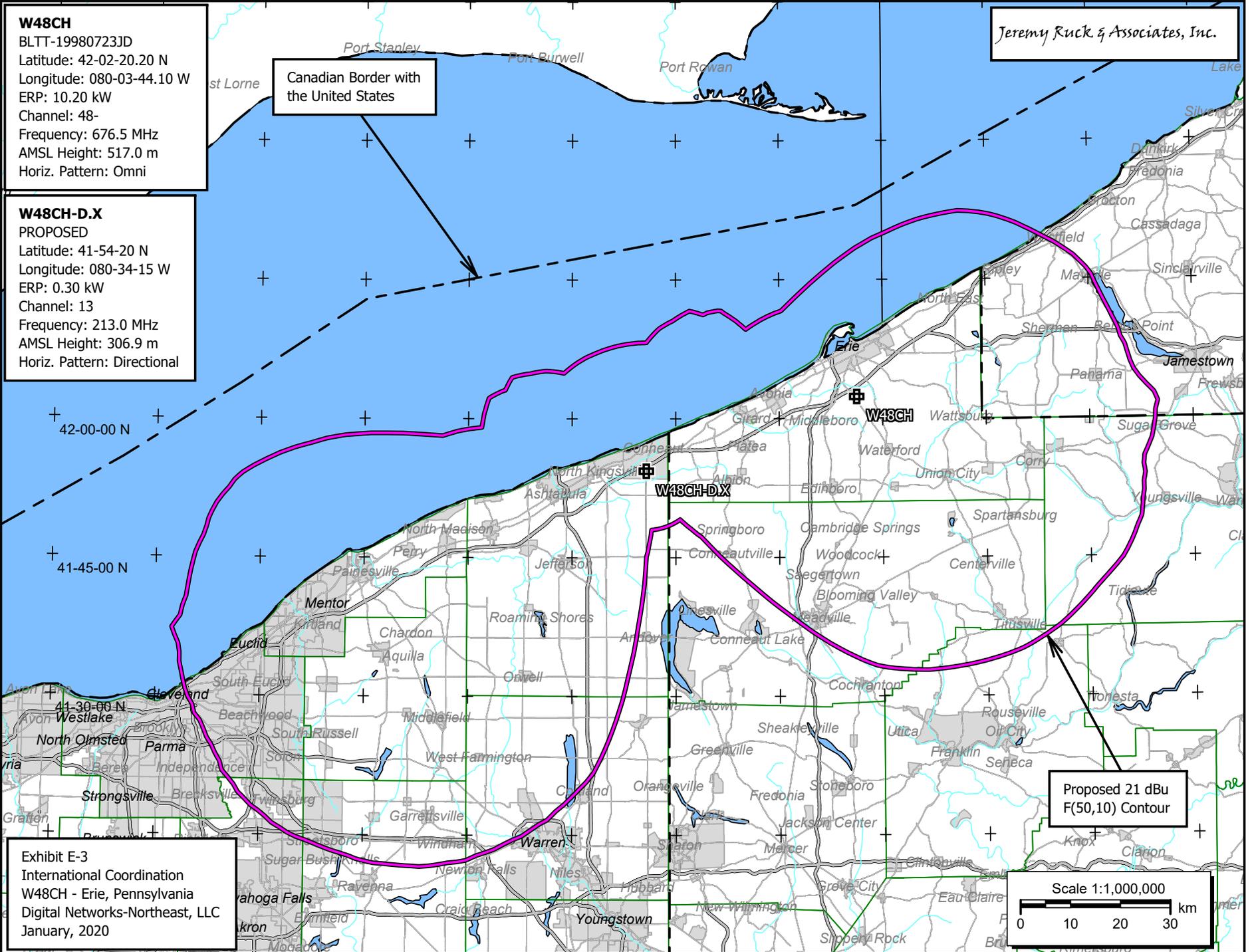


Exhibit E-3
International Coordination
W48CH - Erie, Pennsylvania
Digital Networks-Northeast, LLC
January, 2020

Proposed 21 dBu
F(50,10) Contour

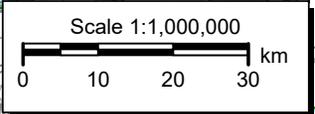


Exhibit E-4 - TVStudy Interference Study

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	WVPX-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%

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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