

TECHNICAL EXHIBIT
APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT

WMNE-LD - PORTLAND, MAINE
FACILITY ID: 47717

DIGITAL NETWORKS—NORTHEAST, LLC

NOVEMBER 2018

APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Northeast, LLC** ("Northeast"), licensee of low power television station WMNE-LP, and permittee of digital low power television station WMNE-LD, both at Portland, Maine, and are in support of their application for modification of construction permit.¹ This application proposes a minor change to the construction permit for WMNE-LD, which is under FCC File No. BMPDTL-20120307ABN.

The referenced construction permit for WMNE-LD authorizes operation on channel 32 as a digital low power station at a maximum ERP of 15 kW utilizing a directional antenna. The authorized center of radiation is 315 meters above sea level, which corresponds to an elevation of 175 meters above ground level. Under this application to modify the construction permit, Northeast proposes to change the antenna type, orientation, and directional pattern. No change in the geographic location, maximum effective radiated power, elevation of the antenna, or other technical parameters, including channel of operation is proposed. The proposed facility would therefore operate on channel 32 with a maximum effective radiated power of 15 kW at a center of radiation of 315 meters above sea level utilizing a Propagation Systems, Inc. ("PSI") model PSILP12OI antenna oriented at 200 degrees true.

Since no change in the location of the antenna is proposed under this location, the proposed facility would comply with the minor change provisions of Section 73.3572 of the Commission's Rules. The proposed and authorized 51 dBu F(50,90) services contours necessarily overlap each other. Exhibit E-1 provides a comparison between these two contours.

¹ The Facility ID for WMNE at Portland, Maine is 47717.

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The proposed technical parameters would not result in interference to other proposed, authorized, or licensed facilities in excess of that permitted under the Commission's Rules. Exhibit E-2 provides tabular output from *TVStudy*. This study demonstrates no interference check failures.

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.

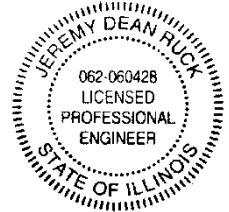
Using the equations in Supplement A of *OET Bulletin 65*, the calculated worst-case power density at ground level assuming a downward radiation relative field of 0.3 is $1.49 \mu\text{W}/\text{cm}^2$. This value is less than the upper limit of the uncontrolled environment condition upper limit. Northeast certifies that 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
November 26, 2018

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WMNE-LP.C

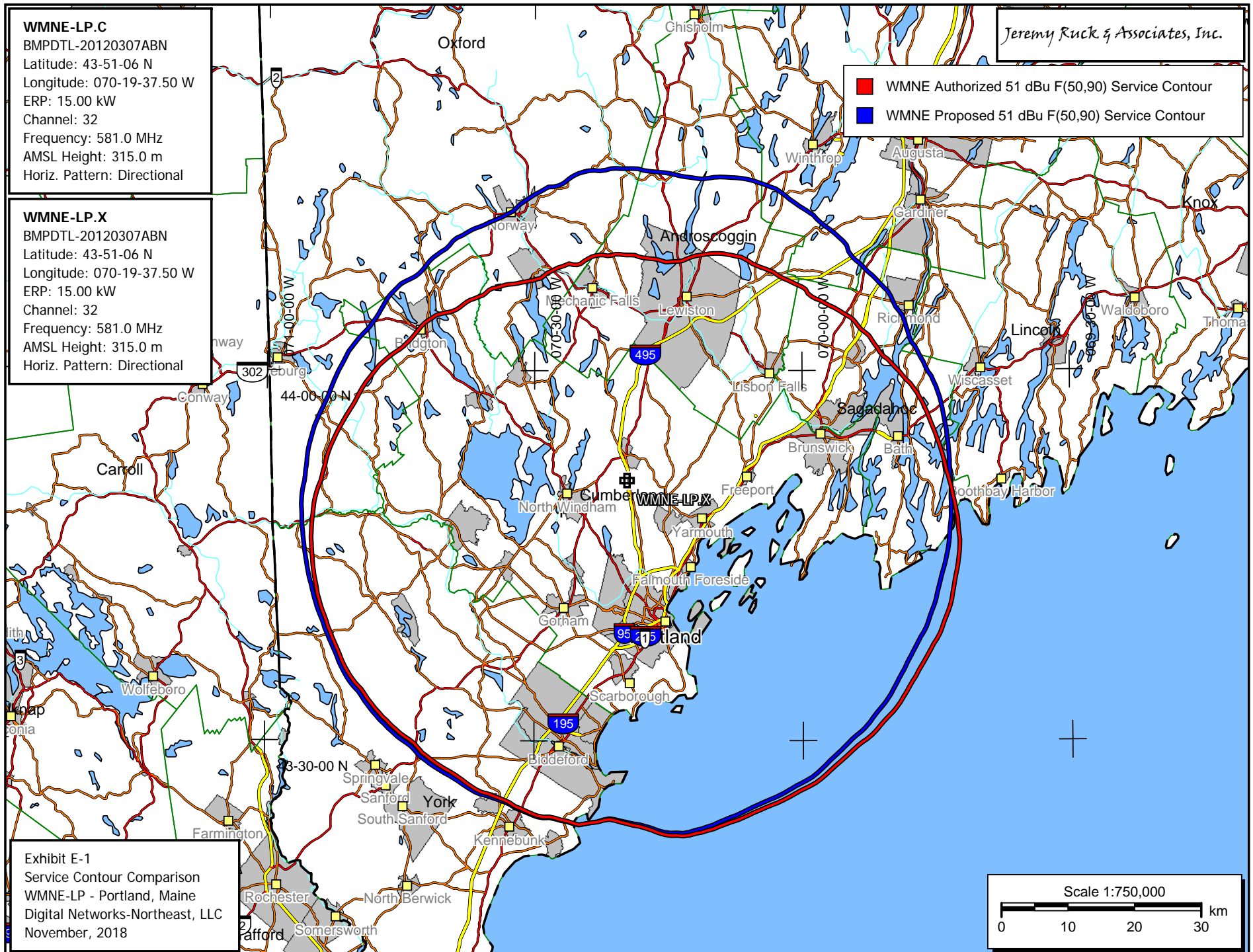
BMPDTL-20120307ABN
Latitude: 43-51-06 N
Longitude: 070-19-37.50 W
ERP: 15.00 kW
Channel: 32
Frequency: 581.0 MHz
AMSL Height: 315.0 m
Horiz. Pattern: Directional

WMNE-LP.X

BMPDTL-20120307ABN
Latitude: 43-51-06 N
Longitude: 070-19-37.50 W
ERP: 15.00 kW
Channel: 32
Frequency: 581.0 MHz
AMSL Height: 315.0 m
Horiz. Pattern: Directional

Jeremy Ruck & Associates, Inc.

- WMNE Authorized 51 dBu F(50,90) Service Contour
- WMNE Proposed 51 dBu F(50,90) Service Contour

**Exhibit E-1**

Service Contour Comparison
WMNE-LP - Portland, Maine
Digital Networks-Northeast, LLC
November, 2018

Exhibit E-2 - TVStudy Interference Study

Study created: 2018.11.26 13:06:31

Study build station data: LMS TV 2018-11-25

Proposal: WMNE-LP D32 LD CP PORTLAND, ME
File number: BMPDTL20120307ABN
Facility ID: 47717
Station data: User record
Record ID: 224
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	WMUR-LP	N29-	TX	LIC	LITTLETON, NH	BLTTL20000601AEG	114.8 km
No	WFXT	D31	DT	LIC	BOSTON, MA	BLCDT20090422ABH	186.7
No	W31DW-D	D31	LD	CP	FAIRFIELD, ME	BNPDTL20100504AMF	135.7
Yes	WCSH	D31	DT	CP	PORTLAND, ME	BLANK0000034813	30.8
No	WRNT-LD	D32	LD	CP	HARTFORD, CT	BLANK0000058577	304.4
Yes	WGBX-TV	D32	DT	CP	BOSTON, MA	BLANK0000034938	186.6
Yes	WBPX-TV	D32	DT	LIC	BOSTON, MA	BLANK0000048989	186.4
No	WUCB-LD	D32	LD	CP	COBLESKILL, NY	BLANK0000053835	364.9
No	WLIW	D32	DT	CP	GARDEN CITY, NY	BLANK0000034431	462.0
No	W47CM	D32z	LD	CP	GLENS FALLS, NY	BLANK0000054298	282.3
Yes	WBTS-LD	N32	TX	LIC	Providence, RI	BLTTL19950414IE	178.1
No	WETK	D32	DT	LIC	BURLINGTON, VT	BLEDT20061011ADW	211.9
No	WCVB-TV	D33	DT	CP	BOSTON, MA	BLANK0000034567	186.6
No	WBGR-LD	N33+	TX	CP	BANGOR/DEDHAM, ME	BPTTL20140910ADV	161.9
No	WBGR-LD	N33+	TX	LIC	BANGOR/DEDHAM, ME	BLTTL19990707JC	162.6
Yes	WPXG-TV	D33	DT	LIC	CONCORD, NH	BLANK0000053337	109.1

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D32
Mask: Full Service
Latitude: 43 51 6.00 N (NAD83)
Longitude: 70 19 37.50 W
Height AMSL: 315.0 m
HAAT: 0.0 m
Peak ERP: 15.0 kW
Antenna: PSILP120I 200.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

50.5 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	6.53 kW	222.4 m	47.4 km
45.0	6.34	240.8	48.3
90.0	5.58	270.7	49.2
135.0	9.36	272.0	52.0
180.0	14.4	228.8	51.8
225.0	14.0	236.8	52.1
270.0	8.66	225.0	49.0
315.0	5.49	188.7	44.6

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 236 m

**Proposal 25.51 dBu contour crosses Canadian border, coordination required

Distance to Canadian border: 158.8 km

Distance to Mexican border: 3109.9 km

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Exhibit E-2 - TVStudy Interference Study

Conditions at FCC monitoring station: Belfast ME
Bearing: 56.0 degrees Distance: 119.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 274.0 degrees Distance: 2889.9 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%

---- Below is IX received by proposal BMPDTL20120307ABN ----

Proposal receives 7.73% interference from scenario 1
No IX check failures found.

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