



Kessler and Gehman Associates
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**MINOR MODIFICATION TO A
CONSTRUCTION PERMITTED
DIGITAL TELEVISION LPTV
BROADCAST STATION**

CALL SIGN: W44CR-D / W13DP-D
FACILITY ID: 49432
FCC FILE NO.: 0000052443
LOCATION: YOUNGSTOWN, OH

Prepared For:

Northeastern Educational
Television of Ohio, Inc.
1750 Campus Center Drive
Kent, OH 44240

Prepared By:

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Prepared On:

November 13, 2019

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1.0 MINOR MODIFICATION

Northeastern Educational Television of Ohio, Inc. (“NETO”) is the licensee of a digital Low Power Television Translator Station having call sign W44CR-D / W13DP-D, which has a Construction Permit¹ to operate at FCC ASRN 1015316. It is herein proposed to:

- Change the broadcast antenna from a Dielectric THV-5A13/VP-R C170 SM to a Jampro JSL-2/13-SEO-V which has a narrower azimuth pattern.
- Rotate the main lobe of radiation from 155 degrees to 320 degrees.
- Reduce the ERP from 3kW to 270W.

Pursuant to 47 CFR Section 74.787(b) the instant application is considered a “minor” change because:

- A change in frequency (output channel) is not proposed
- There is no change in transmitting antenna location where the protected contour resulting from the change does not overlap some portion of the protected contour of the authorized facilities of the existing station as demonstrated in Appendix C
- There is no change in antenna location of greater than 30 miles (48 kilometers) from the reference coordinates of the existing station's antenna location.

2.0 INTERNATIONAL COORDINATION

The proposed W44CR-D / W13DP-D facility will have a 21.00 dB μ V/m contour which cuts into the Canadian border and thus is generally subject to Canadian coordination. Since the proposed facility does not propose a site change and has a 21 dB μ V/m which is 100% subsumed by the construction permit,

¹ FCC File No.: 0000052443

coordination with Canada is not required as no new interference would be caused relative to what has already been approved.

3.0 RADIO FREQUENCY RADIATION COMPLIANCE

A theoretical analysis has been conducted of the human exposure to radio frequency radiation (“RFR”) using the calculation methodology described in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

Terrain² extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360 degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

The resulting RFR study in Appendix D demonstrates that the peak exposure is 0.07% of the most restrictive permissible exposure threshold. Pursuant to OET Bulletin 65 concerning multiple-user transmitter sites only those licensees whose transmitters produce power density levels greater than 5.0% of the exposure limit

² Terrain extraction is based upon a 3 arc second point spacing terrain database.

are considered significant contributors to RFR. Since the proposed operation is within 5% of the most permissible exposure at any location 2 meters above the ground, it is not considered a significant contributor to RFR exposure. Thus, contributions to exposure from other RF sources near the proposed facility were not taken into account. The instant application is compliant with the FCC limits for human exposure to RF radiation and is excluded from further environmental processing since no changes are proposed to the tower structure in order to accommodate the proposed antenna.

A chain link fence encloses the support structure and the applicant will cooperate with any other users of the tower by reducing the power to the antenna or if necessary completely cutting it off to protect maintenance workers on the tower.

4.0 CERTIFICATION

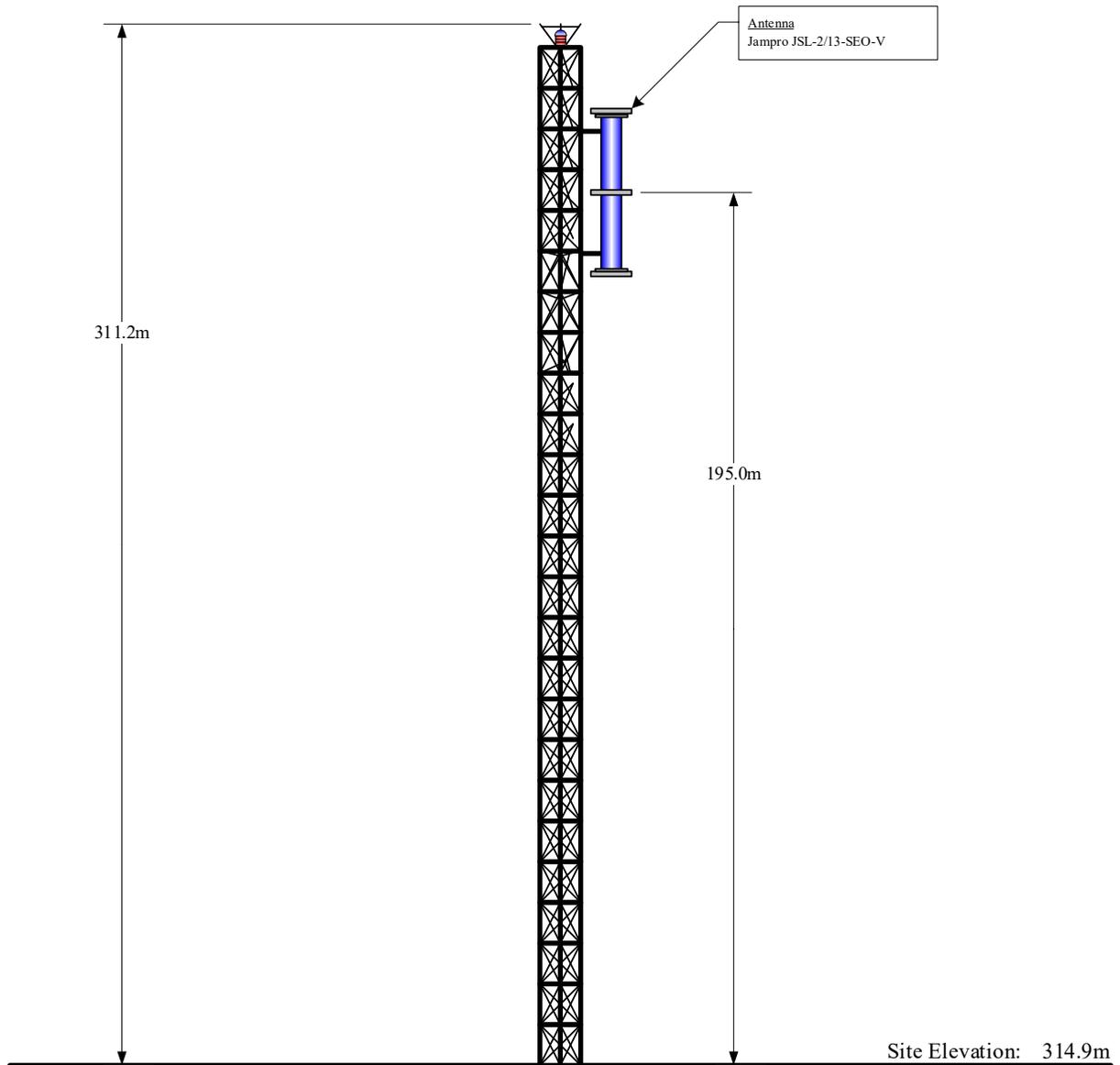
The foregoing statement and the report regarding the engineering work are true and correct to the best of my knowledge. Executed November 13, 2019.

Kessler and Gehman Associates, Inc.



Ryan Wilhour
Consulting Engineer

APPENDIX A – Tower Elevation Diagram



Antenna CRAGL:	195.0 m	NAD 83 Coordinates:	
Antenna CRMSL:	509.9 m	N. Latitude:	41° 04' 48.6"
Antenna HAAT:	187.3 m	W. Longitude:	80° 38' 24.4"

FCC Tower Registration Number: 1015316

NOTE: NOT TO SCALE

FAA Study Number 2013-AGL-8829-OE

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APPENDIX B – TVStudy V2.2.5 Allocation Analysis

Study created: 2019.11.13 03:47:11

Study build station data: LMS TV 2019-11-12

Proposal: W44CR-D / W13DP-D D13 LD CP YOUNGSTOWN, OH
File number: W44CR-D / W13DP-D proposed
Facility ID: 49432
Station data: User record
Record ID: 4337
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Non-U.S. records included
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WAKN-LP	N11-	TX	LIC	AKRON, OH	BLTVL20081031ABD	79.0 km
No	WMFD-TV	D12	DT	LIC	MANSFIELD, OH	BLCDT20081112ALJ	169.8
No	WICU-TV	D12	DT	LIC	ERIE, PA	BLANK0000074553	116.8
No	WBPA-LP	D12+	LD	CP	PITTSBURGH, PA	BLANK0000083787	90.6
No	WBOY-TV	D12	DT	LIC	CLARKSBURG, WV	BLANK0000003150	201.3
No	WHYY-TV	D13	DT	CP	WILMINGTON, DE	BLANK0000034583	470.3
No	WTSF	D13	DT	CP	ASHLAND, KY	BLANK0000029774	331.8
No	WJZ-TV	D13	DT	LIC	BALTIMORE, MD	BLCDT20110914AAS	390.2
No	WNYI	D13	DT	LIC	ITHACA, NY	BLANK0000080187	396.6
No	WHAM-TV	D13	DT	LIC	ROCHESTER, NY	BLCDT20110121ABX	340.1
Yes	WIVX-LD	D13	LD	LIC	LOUDONVILLE, OH	BLANK0000058273	69.7
No	WTVG	D13	DT	APP	TOLEDO, OH	BLANK0000036074	240.8
No	WTVG	D13	DT	LIC	TOLEDO, OH	BLCDT20110415ABN	240.8
No	WYOU	D13	DT	LIC	SCRANTON, PA	BLCDT20051123AJU	399.2
No	WIVC-LP	N13-	TX	LIC	CHARLOTTESVILLE, VA	BLTVL20070504AGQ	363.3
No	WSET-TV	D13	DT	LIC	LYNCHBURG, VA	BLCDT20091013ABE	427.3
Yes	WVFX	D13	DT	CP	CLARKSBURG, WV	BLANK0000034189	199.4
No	WVUX-LD	D13	LD	LIC	Fairmont, WV	BLANK0000021955	202.7
No	WOWK-TV	D13	DT	LIC	HUNTINGTON, WV	BLANK0000003187	315.9
No	WWPX-TV	D13	DT	CP	MARTINSBURG, WV	BLANK0000078091	318.2
No	CKCO-DT	D13	DT	LIC	KITCHENER, ON	BLANKCANADA182	258.3

Non-directional AM stations within 0.8 km:
WBBW 1240 L ND1 U YOUNGSTOWN, OH BL

Directional AM stations within 3.2 km:
WGFT 1330 L DAD D CAMPBELL, OH BMML20141024ADS

Record parameters as studied:

Channel: D13
Mask: Full Service
Latitude: 41 4 48.60 N (NAD83)
Longitude: 80 38 24.40 W
Height AMSL: 509.9 m
HAAT: 187.3 m
Peak ERP: 0.270 kW
Antenna: Jampro JSL-2/13-SEO-V 320.0 deg
Elev Pattnr: Generic

48.0 dBu contour:
Azimuth ERP HAAT Distance
0.0 deg 0.226 kW 187.3 m 36.9 km
45.0 0.129 194.0 33.4
90.0 0.100 174.9 30.2
135.0 0.123 172.6 31.4

W44CR-D / W13DP-D – Minor Modification to a Construction Permitted LPTV Station

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180.0	0.105	167.5	29.9
225.0	0.114	181.4	31.5
270.0	0.205	191.5	36.5
315.0	0.268	229.5	40.8

Proposal 21.00 dBu contour does not cross Canadian border
Distance to Canadian border: 135.0 km

Distance to Mexican border: 2245.7 km

Conditions at FCC monitoring station: Canandaigua NY
Bearing: 52.7 degrees Distance: 345.2 km

Proposal is not within the West Virginia quiet zone area

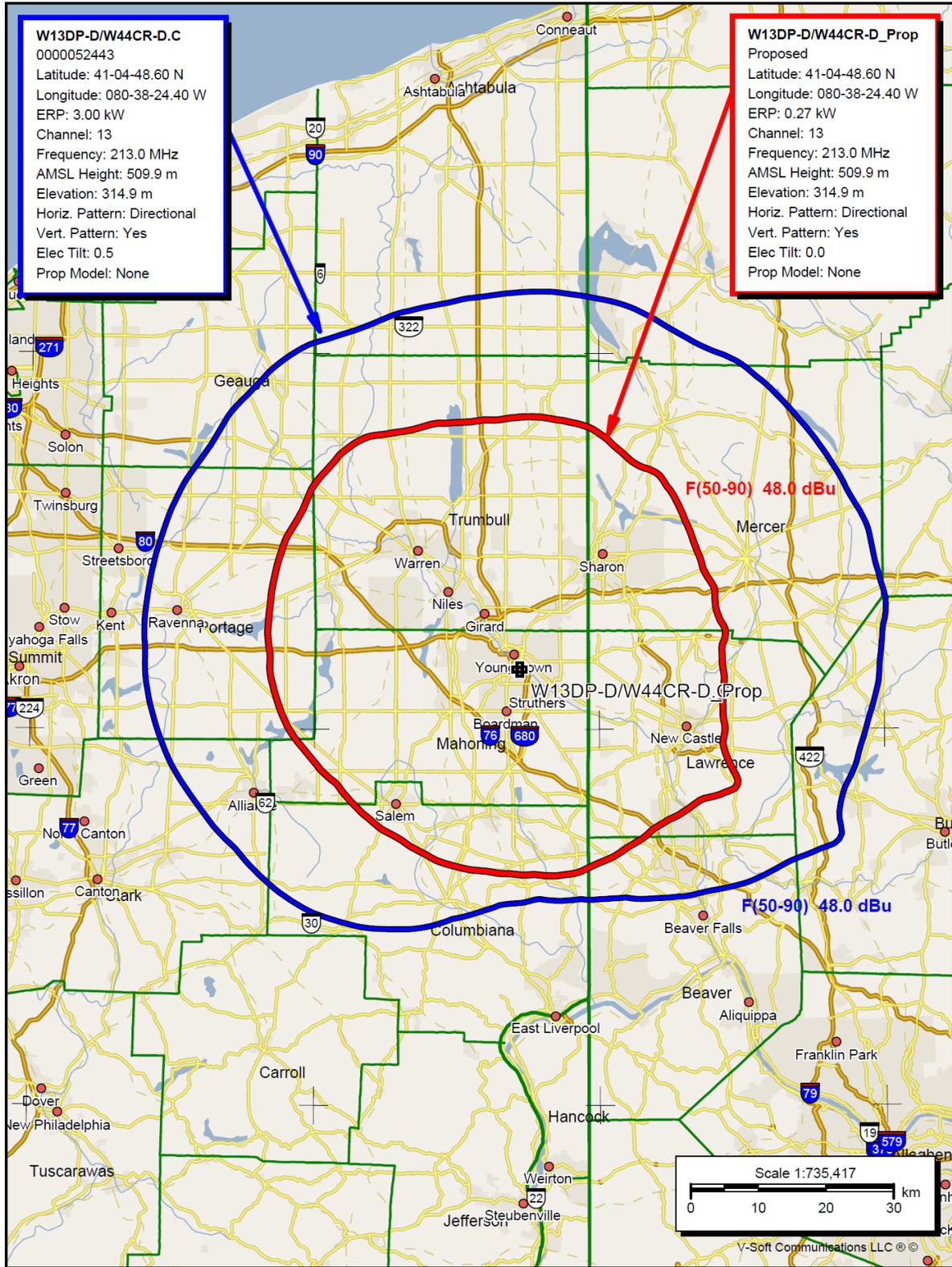
Conditions at Table Mountain receiving zone:
Bearing: 275.3 degrees Distance: 2070.0 km

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%

No IX check failures found.

APPENDIX C – 47 CFR § 74.792 CP and Proposed Contour



APPENDIX D – Far Field Exposure to RF Emissions

