



**Kessler and Gehman Associates**  
Consultants • Broadcast • Wireless

# DIGITAL LPTV CONSTRUCTION PERMIT MINOR MODIFICATION APPLICATION

**CALL SIGN:** WPVS-LD  
**FACILITY ID:** 67976  
**LOCATION:** MILWAUKEE, WI

**Prepared For:**

Roseland Broadcasting, Inc.  
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**Prepared By:**

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July 6, 2022

## **1.0 INTRODUCTION AND SCOPE OF WORK**

Roseland Broadcasting, Inc. is the licensee of a digital low power television broadcast station having call sign WPVS-LD, and facility ID 67976. WPVS-LD has a license<sup>1</sup> to operate on channel 9 using a directional antenna with an ERP of 0.2kW at a height of 389.5m AMSL on antenna structure number 1057482 and a construction permit<sup>2</sup> to modify the license to make the following changes:

- replace the Kathrein K523157 with an Alive ATC-BCE04WRS-V2-9,
- increase the antenna height by 38.1m,
- increase the ERP from 0.2kW to 3.0kW
- change the polarization from Horizontal to Elliptical,
- Change the electrical beam tilt from 0.0 to 0.5.

Upon review of the construction permit it was discovered that the antenna was improperly rotated by 270 in the clockwise direction. The instant application removes the specified antenna rotation. No other changes are proposed.

## **2.0 ALLOCATION ANALYSIS**

Appendix B are the summarized results from TVStudy V2.2.5 which illustrate that there are no prohibited interference failures.

## **3.0 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)**

### **3.1 General Environmental Requirements**

The existing support structure with the addition of the proposed new antenna will not modify any of the following environmental considerations that trigger an environmental assessment:

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<sup>1</sup> FCC File No.: 0000179499

<sup>2</sup> FCC File No.: 0000192949

- Require high intensity white lighting.
- Is not located in an official designated wilderness area or wildlife preserve.
- Does not threaten the existence or habitat of endangered species.
- Does not affect districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture that are listed in the National Register of Historic Places or are eligible for listing.
- Does not affect Indian religious sites.
- Is not located in a floodplain
- Does not require construction that involves significant changes in surface features (e.g., wetland fill, deforestation, or water diversion).

### 3.2 Radio Frequency Radiation (RFR) 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, pursuant to the following methodology:

Terrain<sup>3</sup> 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:

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<sup>3</sup> Terrain extraction is based upon a 3 arc second point spacing terrain database.

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.

Appendix C is the resulting RFR study demonstrating that the peak exposure is 0.08%. The instant application is compliant with the FCC limits for human exposure to RF radiation and thus is excluded from further environmental processing.

#### **4.0 CERTIFICATION**

The foregoing statement and the report regarding the engineering work are true and correct to the best of my knowledge. Executed July 6, 2022.

Kessler and Gehman Associates, Inc.



Ryan Wilhour  
Consulting Engineer

## WPVS-LD – Construction Permit Minor Modification

Milwaukee, WI

### APPENDIX A – TVStudy V2.2.5 Allocation Analysis

Study created: 2022.07.06 08:30:52

Study build station data: LMS TV 2022-07-05

Proposal: WPVS-LP D9 LD CP MILWAUKEE, WI  
File number: Proposed  
Facility ID: 67976  
Station data: User record  
Record ID: 1139  
Country: U.S.

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

Search options:  
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WWMT	D8	DT	LIC	KALAMAZOO, MI	BLANK0000159066	199.6 km
No	WZCK-LD	N8-	TX	LIC	MADISON, WI	BLTVL19920324IF	119.9
No	WMVS	D8	DT	APP	MILWAUKEE, WI	BLANK0000035791	0.0
No	WMVS	D8	DT	LIC	MILWAUKEE, WI	BLANK0000040294	0.0
Yes	KCRG-TV	D9	DT	LIC	CEDAR RAPIDS, IA	BLANK0000001351	334.4
No	DDWCRD-LP	D9+	LD	APP	Freeport, IL	BLANK0000054708	162.1
No	WILL-TV	D9	DT	APP	URBANA, IL	BPEDT20100406ABJ	345.7
No	WILL-TV	D9	DT	LIC	URBANA, IL	BLEDT20050920AEE	345.7
No	WISH-TV	D9	DT	LIC	INDIANAPOLIS, IN	BLANK0000055426	383.3
No	KPDS-LD	D9	LD	CP	WOLCOTT, IN	BLANK0000193606	206.8
No	KPDS-LD	D9	LD	LIC	WOLCOTT, IN	BLANK0000193748	206.8
No	KPDS-LD	D9	LD	LIC	WOLCOTT, IN	BLANK0000188908	206.8
No	WWTW	D9	DT	LIC	CADILLAC, MI	BLCDT20091217ACZ	236.3
No	WWTW	D9	DT	CP	CADILLAC, MI	BLANK0000035807	236.3
No	WXON-LD	N9+	TX	LIC	MILLINGTON, MI	BLTVL20030609AGJ	343.0
No	KMSP-TV	D9	DT	LIC	MINNEAPOLIS, MN	BLANK0000188825	470.3
Yes	WAOW	D9	DT	CP	WAUSAU, WI	BLANK0000035727	248.0
Yes	WAOW	D9	DT	LIC	WAUSAU, WI	BLCDT20120627ABL	248.0
No	WAOE	D10	DD	CP	OSWEGO, IL	BLANK0000189533	200.9
No	WYGN-LD	D10	LD	LIC	BERRIEN SPRINGS, MI	BLDVL20090629AAT	179.1
No	WMVS	D10	LD	LIC	MILWAUKEE, WI	BLANK0000150206	0.0
No	CBET-DT	D9	DT	LIC	WINDSOR, ON	BLANKCANADA242	418.2

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D9  
Mask: Full Service  
Latitude: 43 5 46.20 N (NAD83)  
Longitude: 87 54 15.00 W  
Height AMSL: 427.6 m  
HAAT: 229.4 m  
Peak ERP: 3.00 kW  
Antenna: Alive TC-BCE04WRS-V2-9 0.0 deg  
Elev Pattn: Generic  
Elec Tilt: 0.50

48.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	1.69 kW	223.5 m	53.5 km
45.0	0.018	250.6	24.8
90.0	0.003	250.6	15.5
135.0	0.594	248.2	47.5
180.0	2.88	233.3	57.9

## WPVS-LD – Construction Permit Minor Modification

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*Milwaukee, WI*

225.0	2.67	209.3	56.1
270.0	2.65	209.2	56.0
315.0	2.99	210.9	57.0

Distance to Canadian border: 401.8 km

Distance to Mexican border: 1905.4 km

Conditions at FCC monitoring station: Allegan MI

Bearing: 108.3 degrees Distance: 167.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 263.1 degrees Distance: 1473.0 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%

Proposal causes no interference to BLANK0000001351 LIC

Proposal causes 0.16% interference to BLANK0000035727 CP scenario 3

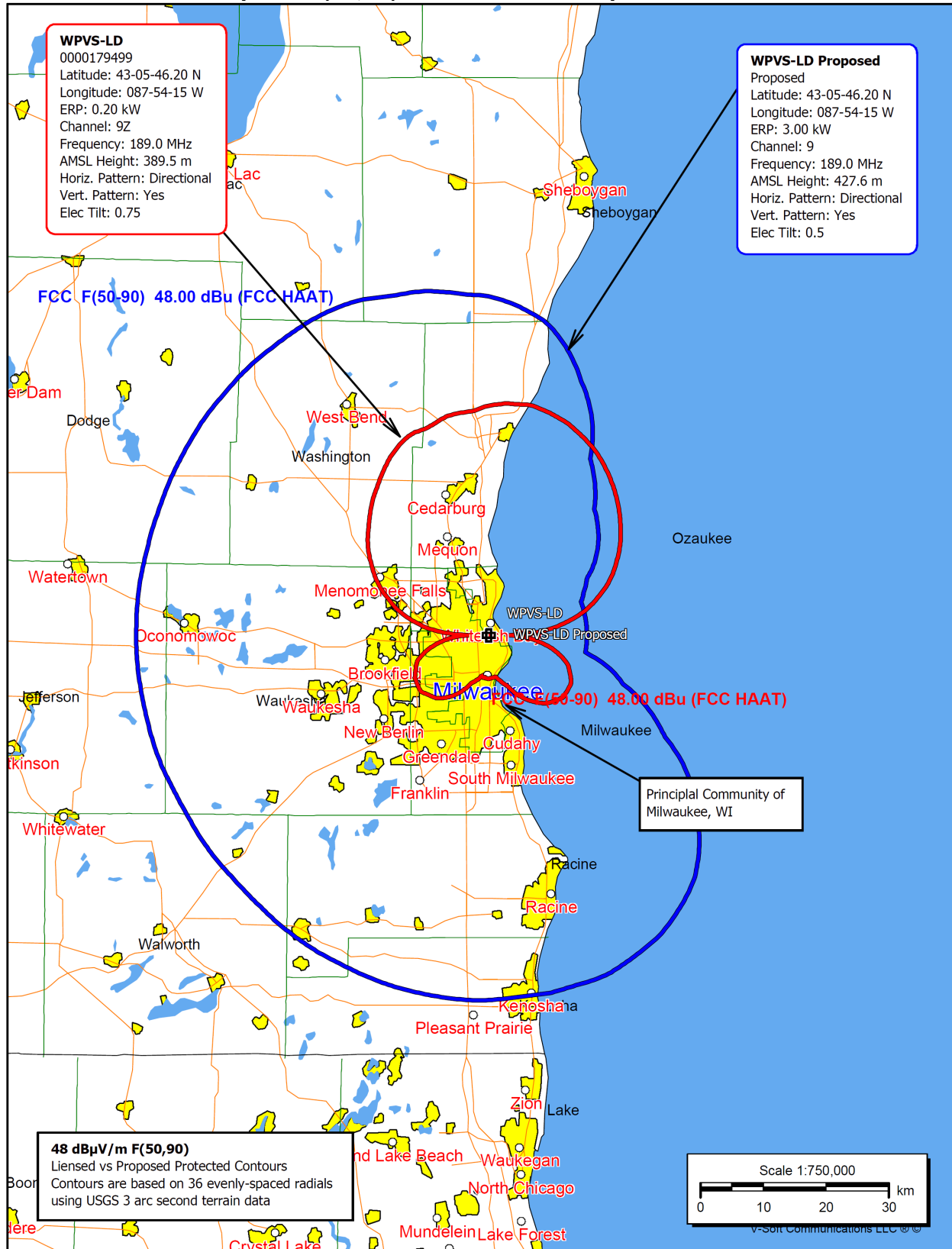
Proposal causes 0.15% interference to BLCDT20120627ABL LIC scenario 3

---- Below is IX received by proposal Proposed ----

Proposal receives 0.33% interference from scenario 5

No IX check failures found.

APPENDIX B – 48dB $\mu$ V/m F(50,90) Licensed and Proposed Contour



## APPENDIX C – Far Field Exposure to RF Emissions

