

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of TRINITY BROADCASTING OF TEXAS, INC., licensee of full-power digital television station WMWC-TV, Channel 8 in Galesburg, Illinois, in support of its Application for Construction Permit to specify an increase in effective radiated power. No change in site location, antenna azimuth pattern or antenna height is proposed herein.

It is proposed to utilize the licensed WMWC-TV circularly-polarized directional antenna, which is mounted at the 325.2-meter level of the existing 334.1-meter WMWC-TV tower. The proposed effective radiated power for the facility is 39 kW (H,V). Exhibit B is a map upon which the predicted service contours are plotted. As shown, the community of Galesburg continues to be completely encompassed by the proposed 43 dBu city-grade service contour.

Azimuth and elevation pattern information for the licensed WMWC-TV antenna appear in Exhibit C. Exhibit D contains the summary results from a TVStudy interference study, which was conducted using a cell size of 2.0 kilometers and increment spacing of 1.0 kilometer. It concludes that the proposed WMWC-TV facility meets the Commission's de minimis interference criteria to all co-channel and adjacent-channel post-repack full-power and Class A facilities. A detailed power density calculation is provided in Exhibit E.

It is important to note that the above-referenced proposal exceeds the power/height limits set forth in Section 73.622(f)(7)(ii) of the Commission's Rules. However, we have determined that the coverage area of the proposed WMWC-TV facility does not exceed that of licensed WHBF-TV, Channel 4 in Davenport, Iowa, the largest station coverage in the Davenport Designated Market Area (DMA), the market served by WMWC-TV.

EXHIBIT A

The area within the proposed WMWC-TV noise-limited (36 dBu) contour is 31,511 km², while that of WHBF-TV (28 dBu) is 49,950 km². Since the proposed WMWC-TV service contour has a smaller coverage area than that of WHBF-TV, the instant proposal meets the requirements of Section 73.622(f)(5) of the Commission's Rules.

Since no change in the overall height or location of the existing WMWC-TV tower is proposed herein, the Federal Aviation Administration has not been notified of this application. In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1225582 to this tower.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read "K. T. Fisher". The signature is stylized with a large "K" and "F" and a smaller "T" in the middle.

KEVIN T. FISHER

November 19, 2020

CONTOUR POPULATION (2018 U.S. CENSUS DATA)
CITY-GRADE (43 DBU) : 755,179 (344,501 HH)
NOISE-LIMITED SERVICE : 1,065,371 (486,662 HH)

Smith and Fisher, LLC

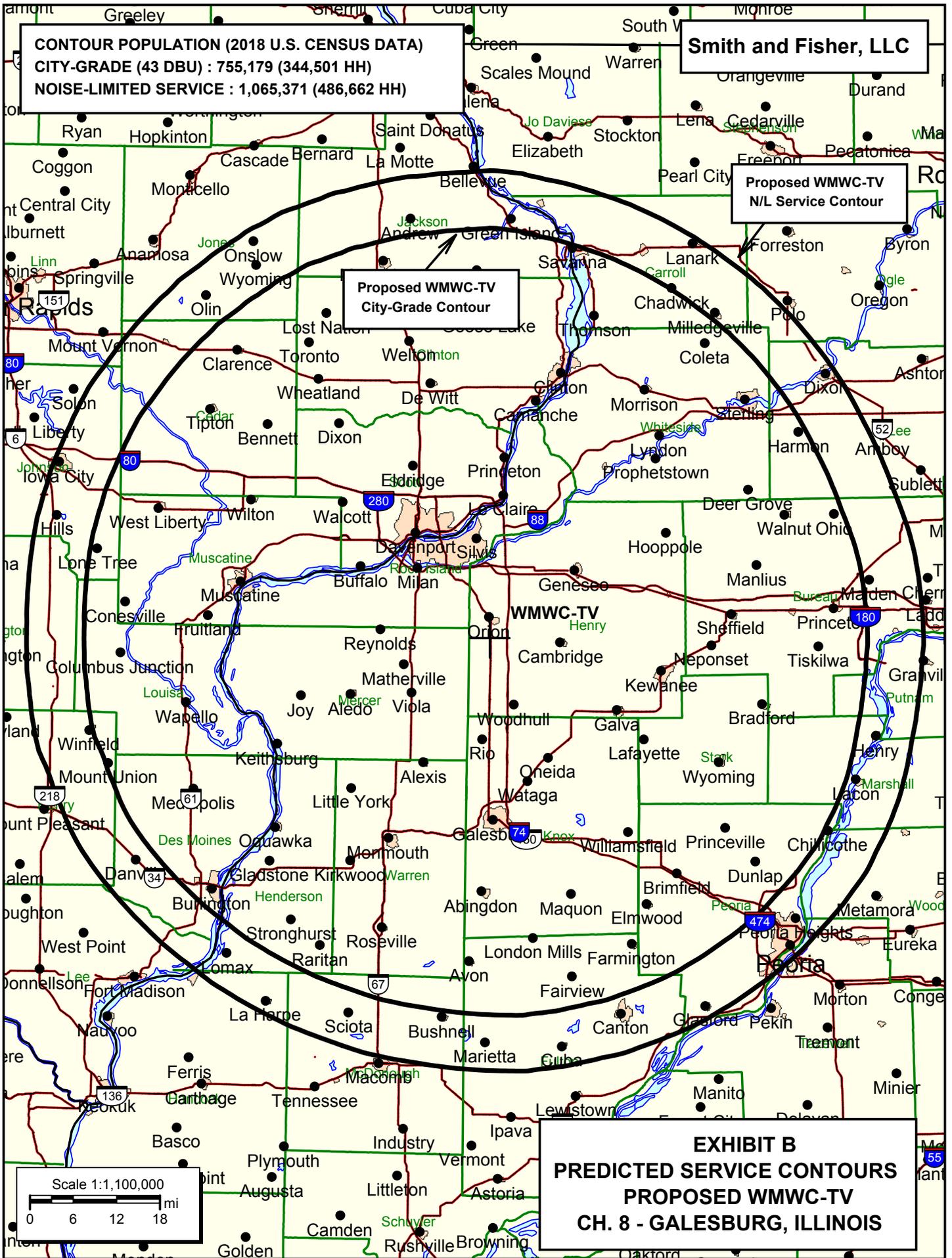
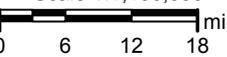
**Proposed WMWC-TV
N/L Service Contour**

**Proposed WMWC-TV
City-Grade Contour**

**WMWC-TV
Henry**

**EXHIBIT B
PREDICTED SERVICE CONTOURS
PROPOSED WMWC-TV
CH. 8 - GALESBURG, ILLINOIS**

Scale 1:1,100,000



Antenna Pattern

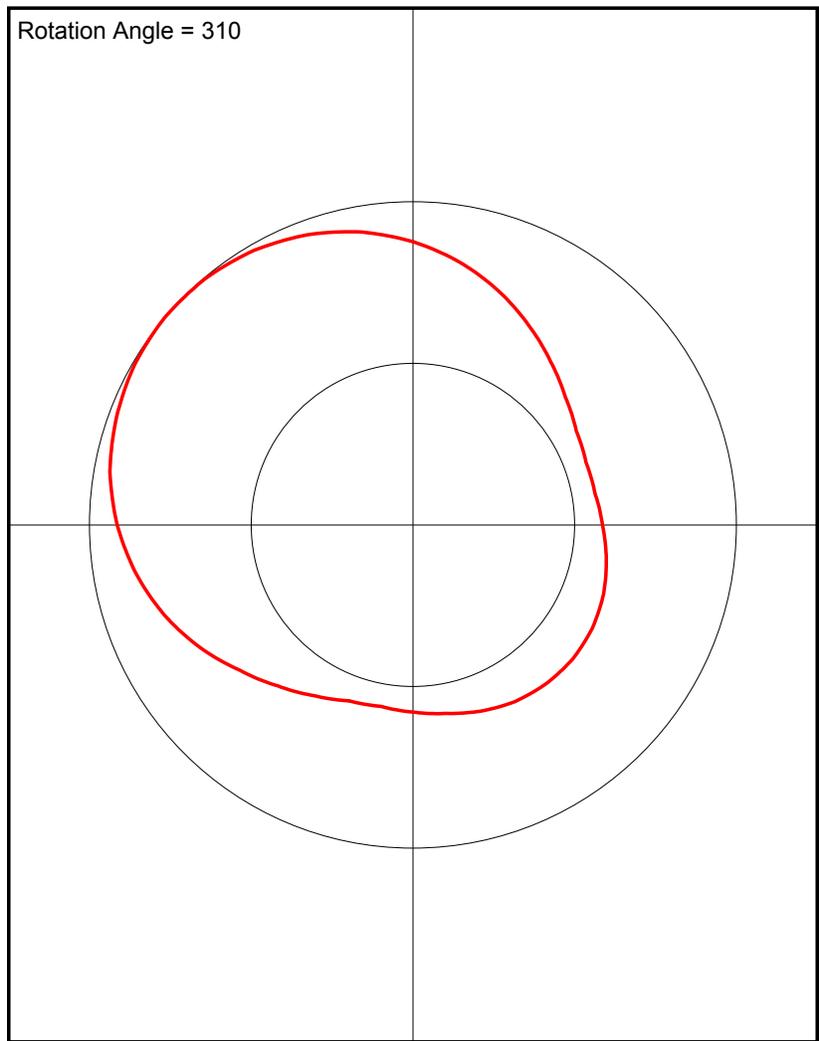
Pre-Rotation Antenna Pattern....

Azimuth (deg)

Relative Field

0.0	1.0
10.0	0.996
20.0	0.981
30.0	0.955
40.0	0.92
50.0	0.876
60.0	0.826
70.0	0.771
80.0	0.714
90.0	0.661
100.0	0.615
110.0	0.583
120.0	0.569
130.0	0.571
140.0	0.586
150.0	0.607
160.0	0.627
170.0	0.64
180.0	0.645
190.0	0.641
200.0	0.631
210.0	0.613
220.0	0.592
230.0	0.579
240.0	0.57
250.0	0.579
260.0	0.61
270.0	0.65
280.0	0.699
290.0	0.759
300.0	0.817
310.0	0.869
320.0	0.914
330.0	0.951
340.0	0.975
350.0	0.993

Rotation Angle = 310

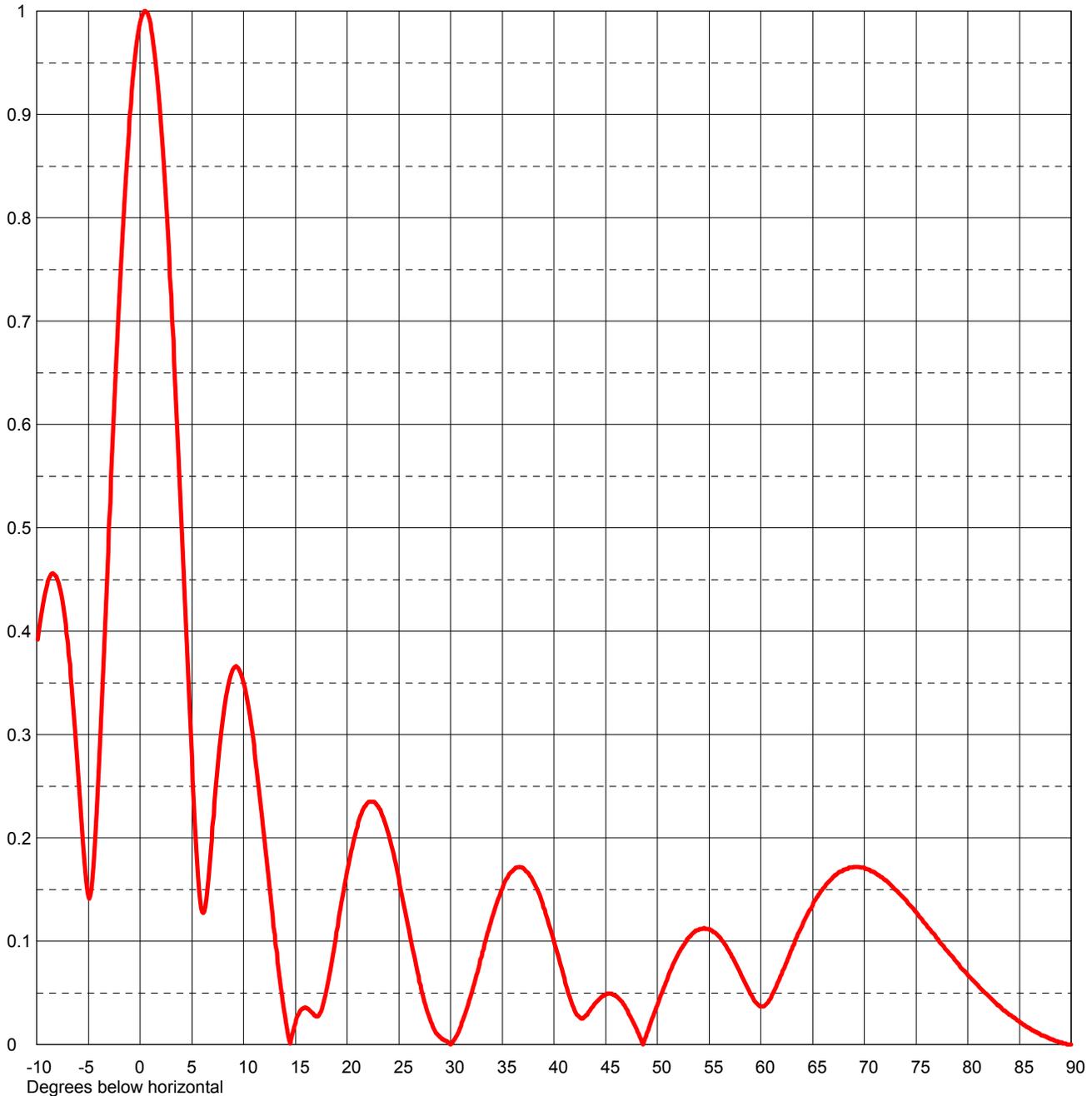




Date **27 Oct 2010**
Call Letters **Channel 8**
Location **GALESBURG, IL**
Customer
Antenna Type **TLS-V8**

ELEVATION PATTERN

RMS Gain at Main Lobe	8.0 (9.03 dB)	Beam Tilt	0.50 Degrees
RMS Gain at Horizontal	7.8 (8.92 dB)	Frequency	183.00 MHz
Calculated / Measured	Calculated	Drawing #	08S080050-90



Remarks:

SMITH AND FISHER

EXHIBIT D

TVSTUDY INTERFERENCE ANALYSIS RESULTS PROPOSED WMWC-TV CHANNEL 8 – GALESBURG, ILLINOIS

Study created: 2020.11.19 12:57:11

Study build station data: LMS TV 2020-11-16

Proposal: WMWC-TV D8 DT LIC GALESBURG, IL

File number: BLCDT20120820AAQ

Facility ID: 81946

Station data: User record

Record ID: 932

Country: U.S.

Zone: I

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	KWWL	D7	DT	LIC	WATERLOO, IA	BLCDT20100707AXT	171.2 km
No	KHQA-TV	D7	DT	CP	HANNIBAL, MO	BLANK0000035796	169.2
No	KHQA-TV	D7	DT	LIC	HANNIBAL, MO	BLCDT20090622AFC	169.2
Yes	KCCI	D8	DT	LIC	DES MOINES, IA	BLCDT20090619AAG	275.2
Yes	KCCI	D8	DT	CP	DES MOINES, IA	BLANK0000035699	275.2
Yes	WSIU-TV	D8	DT	LIC	CARBONDALE, IL	BLEDT20090612ADB	369.7
No	WSIU-TV	D8	DT	APP	CARBONDALE, IL	BLANK0000035684	369.7
No	WWMT	D8	DT	CP	KALAMAZOO, MI	BLANK0000035795	426.1
No	WWMT	D8	DT	LIC	KALAMAZOO, MI	BLCDT20090616AAV	426.1
Yes	KOMU-TV	D8	DT	LIC	COLUMBIA, MO	BLCDT20090612AFB	313.5
Yes	WKBT-DT	D8	DT	CP	LA CROSSE, WI	BLANK0000035780	318.6
Yes	WKBT-DT	D8	DT	LIC	LA CROSSE, WI	BLCDT20090507ACT	318.6
Yes	WMVS	D8	DT	APP	MILWAUKEE, WI	BLANK0000035791	284.3
Yes	WMVS	D8	DT	LIC	MILWAUKEE, WI	BLANK0000040294	284.3
Yes	KCRG-TV	D9	DT	LIC	CEDAR RAPIDS, IA	BLANK0000001351	165.7
No	WILL-TV	D9	DT	APP	URBANA, IL	BPEDT20100406ABJ	202.0
No	WILL-TV	D9	DT	LIC	URBANA, IL	BLEDT20050920AEE	202.0

No non-directional AM stations found within 0.8 km

SMITH AND FISHER

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D8
Latitude: 41 18 44.50 N (NAD83)
Longitude: 90 22 46.20 W
Height AMSL: 554.7 m
HAAT: 330.0 m
Peak ERP: 39.0 kW
Antenna: ALI-ATC-BCE780-8 (ID 104290) 310.0 deg
Elev Pattn: Generic
Elec Tilt: 0.50

36.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	29.9 kW	340.2 m	104.1 km
45.0	15.9	327.3	97.9
90.0	13.4	326.6	96.5
135.0	16.1	329.9	98.2
180.0	13.1	326.2	96.3
225.0	17.7	333.8	99.3
270.0	32.6	318.5	103.0
315.0	38.8	326.6	105.2

Database HAAT does not agree with computed HAAT

Database HAAT: 330 m Computed HAAT: 329 m

ERP exceeds maximum

ERP: 39.0 kW ERP maximum: 23.4 kW

Distance to Canadian border: 605.5 km

Distance to Mexican border: 1621.6 km

Conditions at FCC monitoring station: Allegan MI

Bearing: 67.1 degrees Distance: 392.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 269.0 degrees Distance: 1255.5 km

Study cell size: 2.00 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 outgoing IX check failures found.

POWER DENSITY CALCULATION
PROPOSED WMWC-TV
CHANNEL 8 – GALESBURG, ILLINOIS

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Galesburg facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 39 kW (H,V), an antenna radiation center 325.2 meters above ground, and the specific elevation pattern of the Alive ATC-BCE780-8 antenna, maximum power density two meters above ground of 0.00063 mW/cm^2 is calculated to occur 124 meters northeast of the base of the tower. Since this is only 0.3 percent of the 0.20 mW/cm^2 reference for uncontrolled environments (areas with access to the public) surrounding a facility operating on Channel 8 (180-186 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.