

Comprehensive Technical Statement

In support of

Minnesota Valley Broadcasting Co.

Application for Minor Change for FM Translator K274AL

102.7 MHz, Channel 274, facility id # 79173

Mankato, MN

Introduction

Minnesota Valley Broadcasting Co. ("applicant") proposes the following minor changes to its K274AL:

- Transmitter location
- Antenna height

No other changes are proposed.

Allocation Study

The following table lists all full-service FM conflicts that do not exceed the §73.207 required spacings for Class A FM station by at least 25km:

appid	facid	adj	chan	status	call	st	city	erp	da	haat	brg	dkm	req	Δ
430115	49798	0	274C3	LIC	KYTC	IA	NORTHWOOD	25	N	90	138	95.7	142	-46.3
163921	9641	1	275C0	LIC	WLTE	MN	MINNEAPOLIS	100	N	315	35	126.2	152	-25.8
30647	36378	1	273C1	LIC	KQIC	MN	WILLMAR	100	N	253	325	144.9	133	11.9

The only conflicts that are not fully spaced are KYTC and WLTE. It will be shown that there is no prohibited overlap with either conflict.

Detailed Interference Study

The following collection of maps and the narrative accompanying each show conclusively that no prohibited overlap will occur between the proposed facility and the conflicts listed in the allocation study.

In all cases, the proposed f(50,50) interfering contour is shown in red, and the protected 60 dBu f(50,50) contours of the conflicts are shown in black. The maps show all conflicts, including other translators not included in the table above..

Skywaves Consulting LLC

PO Box 4, Millbury, MA 01527

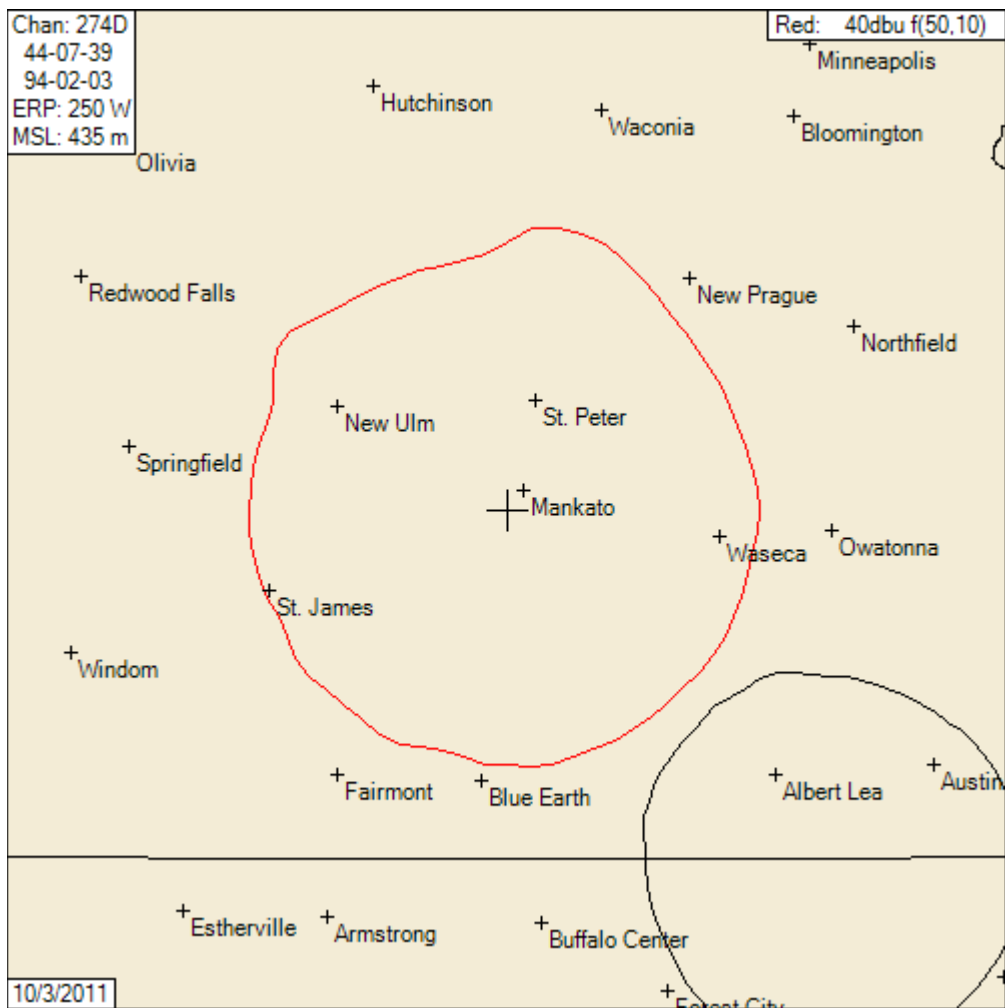
Main Number: 401-354-2400

<http://www.skywaves.com>

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Map 1 – Co-channel Outbound Interference



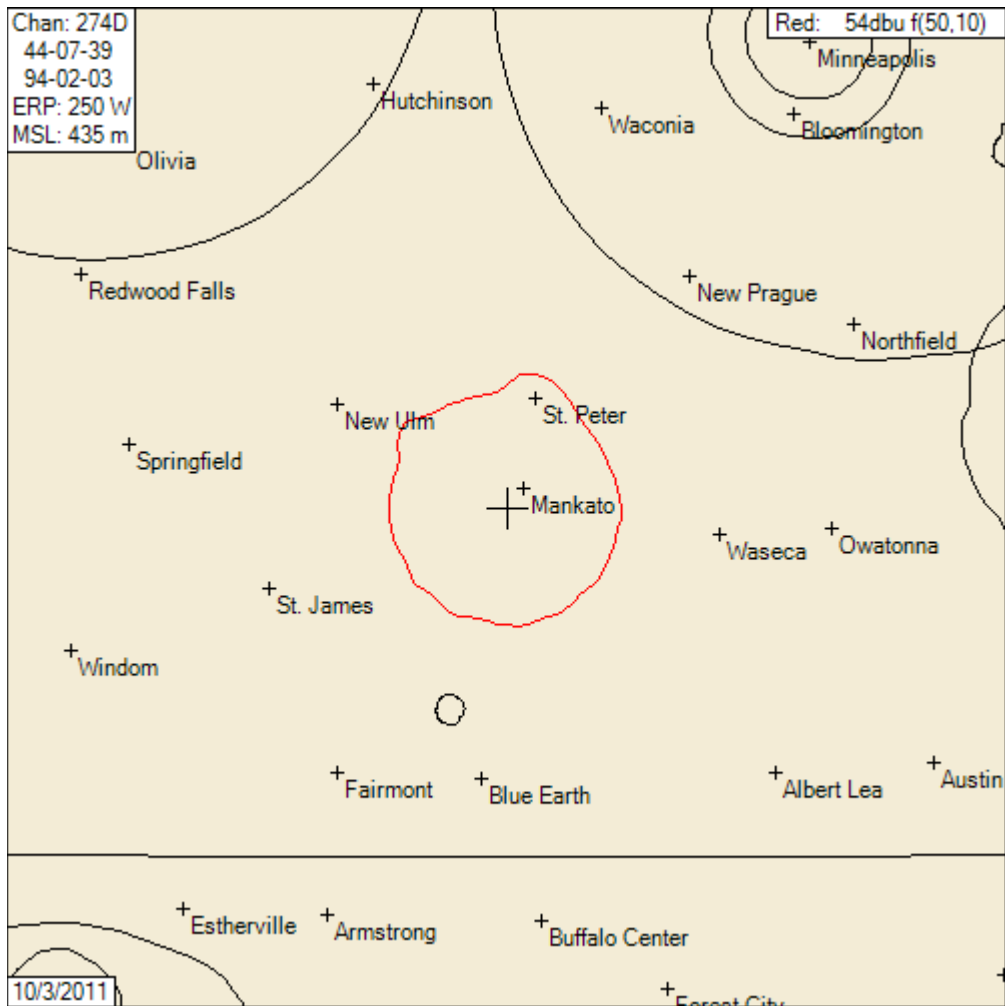
There is no overlap between the proposed 40 dBu f(50,10) contour of K274AL and the 60 dBu f(50,50) contour of KYTC to the southeast, or any other 60 dBu f(50,50) contour.

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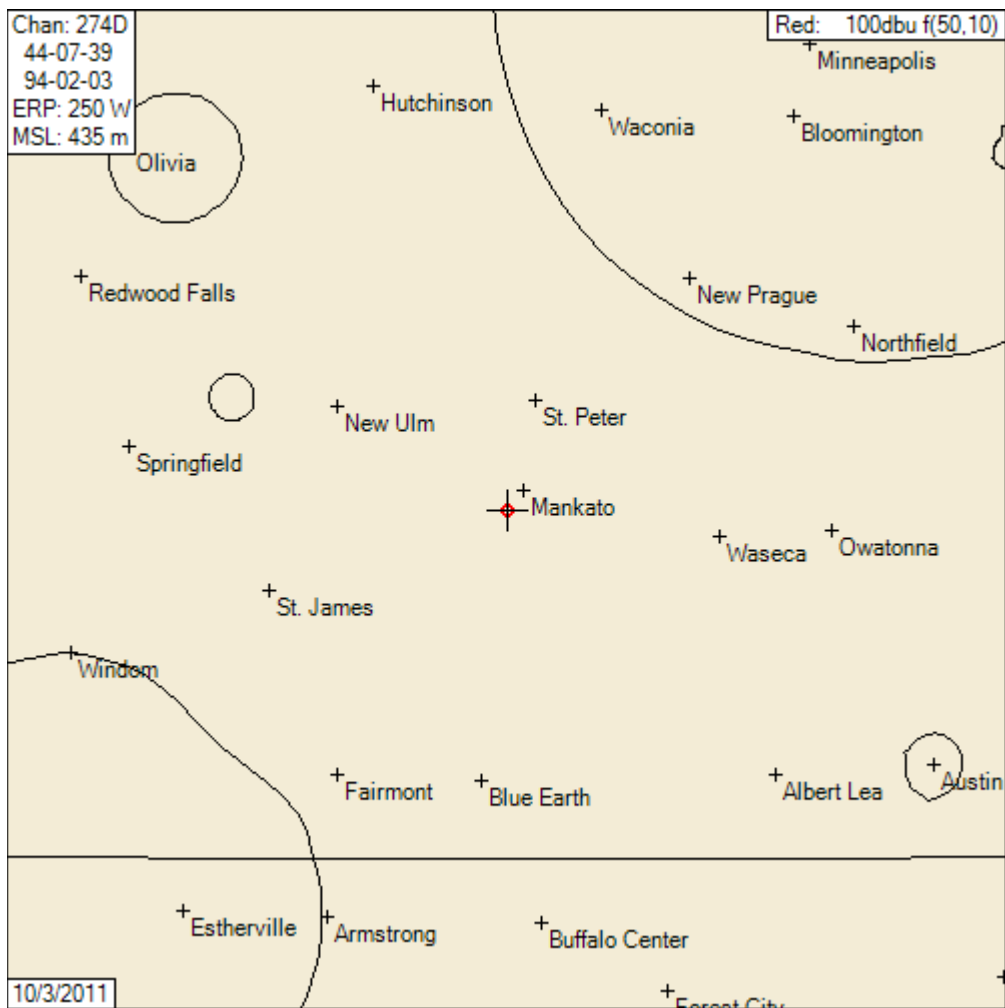
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Map 2 – First Adjacent Outbound Interference



There is no overlap between the proposed 54 dBu f(50,10) contour of K274AL and the 60 dBu f(50,50) contour of WLTE to the northeast, or any other 60 dBu f(50,50) contour.

Map 3 – Second/Third Adjacent Outbound Interference Detail



There is no overlap between the proposed 100 dBu f(50,10) contour of K274A and the 60 dBu f(50,50) contour of any potential conflict.

IF Separation requirements

The nearest IF-separated facility is KRUE, Waseca, MN (facility ID 70930), Class C3. It is 52.87 km from the proposed site. The minimum separation between a translator and a full Class C station is 29 km, with all other classes requiring less than 29 km separation. Therefore, the proposal meets the IF separation requirements.

Channel 6 Interference

The proposed facility is not on a channel that is implicated in channel 6 interference.

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Transmitter Location

The proposed location is an existing tower, ASR # 1023783. No changes in height are proposed, and there will be no construction other than side-mounting the antenna and transmission line.

The ASR datasheet and NADCON conversion for the proposed tower are attached.

Antenna

A one-bay omnidirectional antenna is proposed.

RF Exposure

The antenna will be mounted 151 m above ground level. Assuming the worst-case antenna, FMMODEL produces a maximum exposure of less than $1 \mu\text{W}/\text{cm}^2$, which is $\frac{1}{2}\%$ of the limit for casual / uncontrolled exposure.

The applicant agrees to coordinate with other users of the site to reduce power or shut down in order to protect workers at the site.

International

The FM Agreements with Canada and Mexico require evaluation and potential coordination of any proposal within 320 km of the border.

The distance to the nearest point along the US/Canada border is 472 km. Coordination with Canada is not required.

The distance to the nearest point along the US/Mexico border is 1,722 km. Coordination with Mexico is not required.

Quiet Zone Calculations [73.1030(a) & (b)]

The proposed site is outside the National Radio Quiet Zone (National Radio Astronomy Observatory Notification Area) in West Virginia.

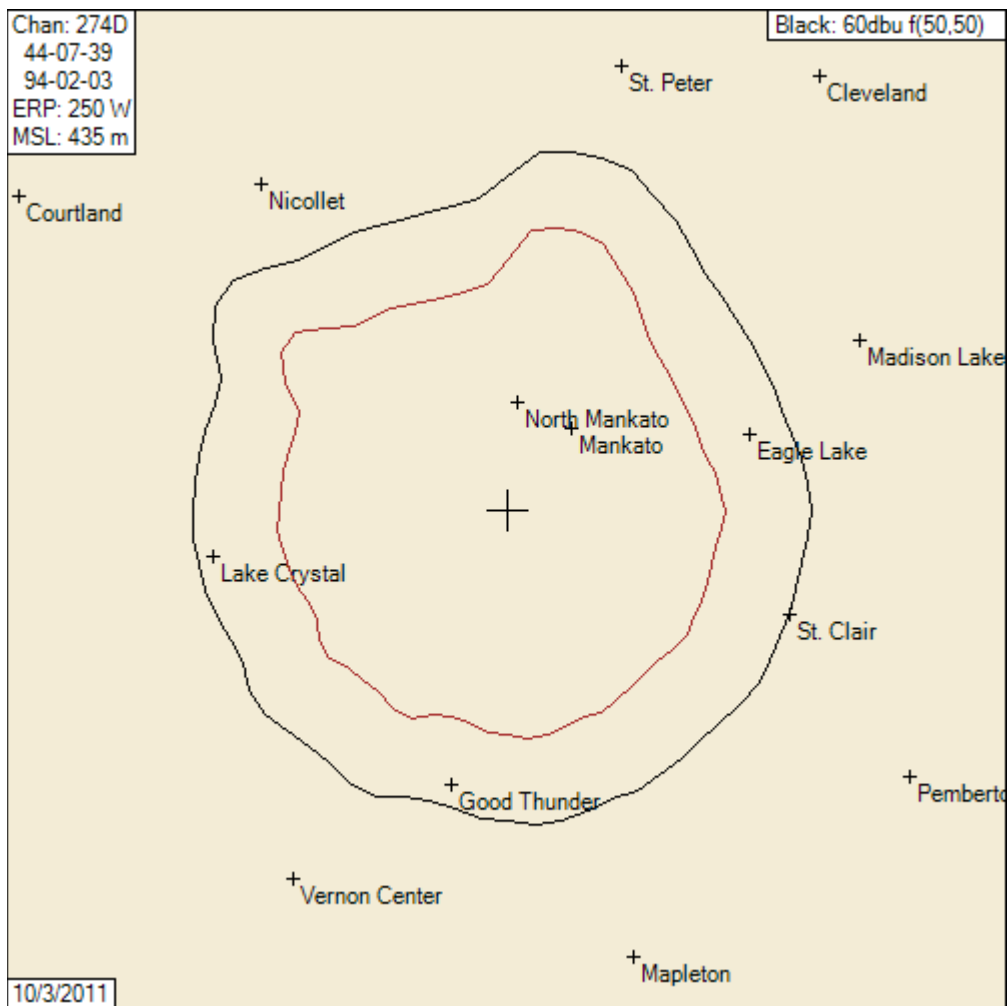
The proposed site is outside the Arecibo Observatory notification area in Puerto Rico.

The proposed site is not within a 100km extension of the Table Mountain Radio Receiving Zone in Colorado.

Protected Monitoring Stations [73.1030(c)]

The nearest Protected Monitoring Station is 506 km distant, in Grand Island, NE.

Minor Change Qualifications



The above map depicts the licensed 60 dBu f(50,50) contour in red and the proposed 60 dBu f(50,50) contour in black.

The proposed 60 dBu f(50,50) contour completely encloses the existing 60 dBu f(50,50) contour. No frequency change is proposed.

The proposal is therefore for a minor change.

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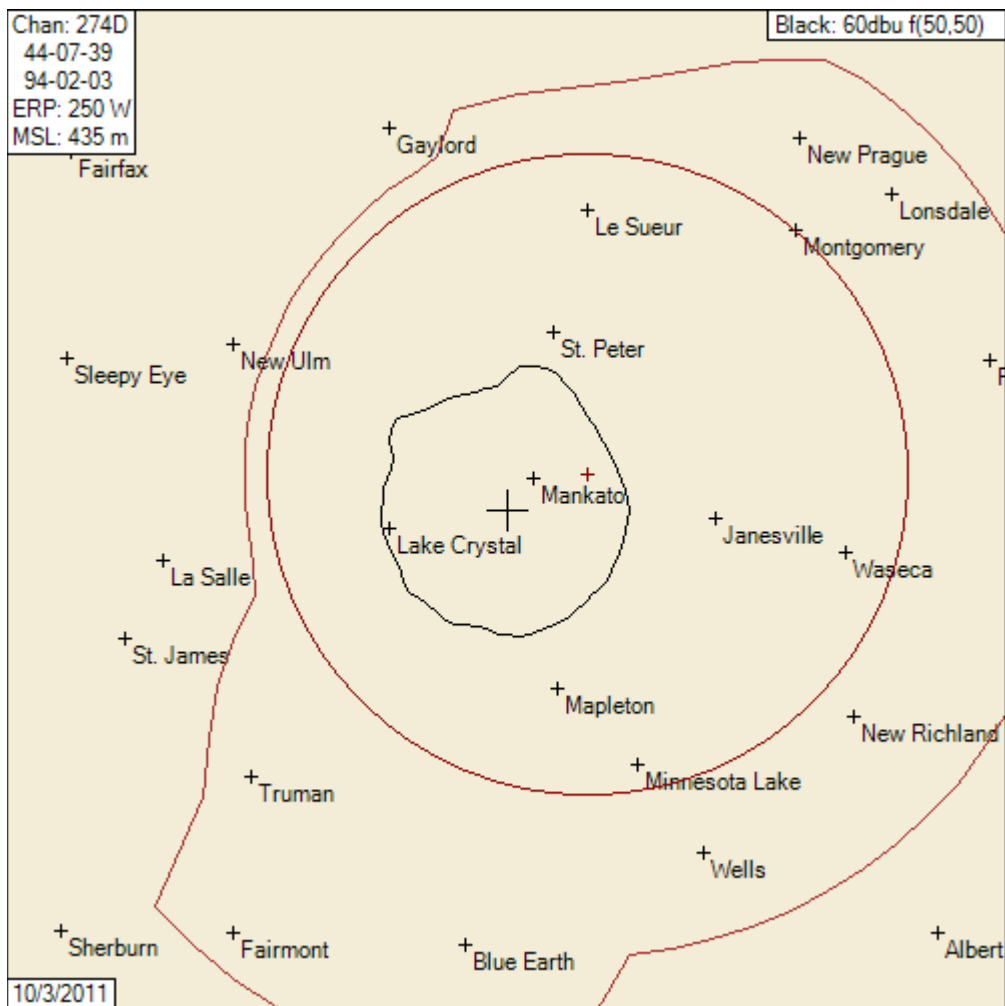
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Fill-In Translator



The current and proposed primary station is KTOE (AM), Mankato, MN, FCC facility ID # 42899.

The above map shows the proposed 60 dBu f(50,50) contour in black, the 2 mV/m contour of primary station KTOE (AM) as an irregular red polygon, and a distance of 40 km from the KTOE (AM) transmitter as a red circle.

The 60 dBu f(50,50) contour falls within both the 2 mV/m contour and a distance of 40 km from the transmitter of KTOE (AM).

The proposal therefore qualifies for fill-in service with KTOE (AM) as the primary station.

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Registration 1023783 [Map Registration](#)**Registration Detail**

Reg Number	1023783	Status	Constructed
File Number	A0028372	Constructed	10/05/1993
FAA Study	93-AGL-2375-OE	EMI	No
FAA Issue Date	07/19/1993	NEPA	No

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Communications Purposes

Location (in NAD83 Coordinates)

Lat/Long 44-07-39.0 N 094-02-04.0 W 1.7 MI SSW OF ST HWY 66
City, State MANKATO , MN
Center of
AM Array

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
289.3	150.9
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
440.2	150.9

Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 13

Paint and Light in Accordance with FAA Circular Number 70/7460-1H

Owner & Contact Information

FRN Licensee ID

Owner

MIDWEST WIRELESS COMMUNICATIONS DBA =
CELLULAR 2000 P: (507)345-2440
Attention To: DIRECTOR OF ENGINEERING E:
1870 MADISON AVE
P.O. Box 4069
MANKATO , MN 56001

Contact

P:
E:

Last Action Status

Status	Constructed	Received	06/25/1997
Purpose	New	Entered	06/25/1997
Mode	Interactive		

Related Applications

06/25/1997 A0028372 - New (NE)

Comments

Comments

None

Automated Letters

None

CLOSE WINDOW

Output from NADCON for station ASR 1023783

North American Datum Conversion

NAD 83 to NAD 27

NADCON Program Version 2.11

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Transformation #: 1 Region: Conus

	Latitude	Longitude
NAD 27 datum values:	44 07 39.12312	94 02 3.15924
NAD 83 datum values:	44 07 39.00000	94 02 4.00000
NAD 27 - NAD 83 shift values:	0.12312	-0.84076 (secs.)
	3.800	-18.692 (meters)
Magnitude of total shift:		19.074 (meters)



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