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APR 24 2009

Federal Communications Commission
Office of the Secretary

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Section 73.622(i),)	MB Docket No. 08-117
Final DTV Table of Allotments,)	RM-11450
Television Broadcast Stations)	
(St. Paul, Minnesota))	

To: Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary

Attn: Chief, Video Division, Media Bureau

SUPPLEMENTAL COMMENTS OF TWIN CITIES PUBLIC TELEVISION, INC.

Twin Cities Public Television, Inc. ("TPT"), licensee of noncommercial educational Station KTCI-TV, analog Channel *17, St. Paul, Minnesota, hereby supplements its earlier comments in this docket. TPT is the proponent of the proposal set forth in the above-captioned Notice of Proposed Rule Making to substitute DTV Channel *38 for the assigned post-transition DTV Channel *26 for noncommercial educational Station KTCI-DT, St. Paul, Minnesota.¹ For the reasons set forth below TPT now proposes the allotment of DTV Channel *23 rather than Channel *38.

¹ The Notice at paragraph 1 mistakenly refers to the Station KTCI-TV analog channel as *16. The station operates on analog Channel *17 and on pre-transition digital Channel *16.

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1. Duluth-Superior Area Educational Television Corporation ("DS") filed a counterproposal. It asked for the substitution of DTV Channel *23, *24, or *25, rather than *38 as proposed, for use by Station KTCI-DT. DS also sought waiver of the freeze on petitions for new DTV allotments and the allotment of Channel *38 to Superior, Wisconsin so that it could apply for authority to construct a new noncommercial educational station there. DS hopes to use the equipment from the pre-transition Channel *38 facilities of its Station WDSE-DT, Duluth, Minnesota for such a new station.

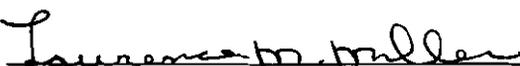
2. TPT filed a Reply opposing DS' counterproposal. The parties have now, however, reached a settlement of their differences and they are filing simultaneously herewith a Joint Request For Approval Of Settlement Agreement And Request For Withdrawal Of Counterproposal ("Joint Request"). The Settlement Agreement provides that (a) TPT will file this Supplement asking for allotment of Channel *23 for Station KTCI-DT but will reserve the right to revert to the request for allotment of Channel *38 in specified circumstances, (b) DS will withdraw its Counterproposal, and (c) DS will reimburse TPT for its costs of retuning certain equipment to operate on Channel *23 and up to a certain amount of reasonable and prudent engineering and legal costs in filing this Supplement.

3. The attached engineering supplement shows that Channel *23 can be allotted consistent with all applicable rules. TPT will promptly apply for DTV Channel *23 when it is allotted and, when authorized, will promptly build its DTV station using that channel within the time limit specified by the Commission.

In view of this showing, Channel *23, rather than Channel *38, should be substituted for Channel *26 for use for Station KTCL-DT, conditioned on approval of the Joint Request.

Respectfully submitted,

TWIN CITIES PUBLIC TELEVISION, INC.

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Its Attorneys

Date: April 24, 2009

SUPPLEMENT TO A PETITION FOR RULE MAKING

AMEND DTV TABLE OF ALLOTMENTS TO
SUBSTITUTE CHANNEL 23, INSTEAD OF
CHANNEL 38, IN LIEU OF CHANNEL 26
FOR KTCI-DT POST-TRANSITION FACILITY
ST. PAUL, MINNESOTA

KESSLER AND GEHMAN ASSOCIATES, INC.
TELECOMMUNICATIONS CONSULTING ENGINEERS

20090422

Prepared by William T. Godfrey, Jr.

KGGA

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Kessler and Gehman Associates, Inc.

Telecommunications Consulting Engineers

ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM THOMAS GODFREY, JR. OF THE FIRM KESSLER AND GEHMAN ASSOCIATES INC. (KGA), TELECOMMUNICATIONS CONSULTING ENGINEERS IN SUPPORT OF A SUPPLEMENT TO A PETITION FOR RULE MAKING (BPRM-20080620AFM) TO AMEND THE DTV TABLE OF ALLOTMENTS BY SUBSTITUTING CHANNEL *23, INSTEAD OF CHANNEL *38, IN PLACE OF CHANNEL *26 FOR THE KTCI-DT BROADCAST FACILITY LICENSED TO TWIN CITIES PUBLIC TELEVISION (TPT).

The firm Kessler and Gehman Associates, Inc. (KGA) has been retained by Twin Cities Public Television, Inc., St. Paul, MN to prepare engineering studies and the engineering portion of a supplement to a Petition for Rule Making (BPRM-20080620AFM) to amend the DTV Table of Allotments (Appendix B) to substitute the proposed post-transition digital Channel *23, instead of the previous requested Channel *38, in lieu of allotted post-transition digital Channel *26 which is assigned to the KTCI-DT digital television broadcast facility.

Discussion

Twin Cities Public Television (tpt) is licensed to operate the KTCI-TV analog facility on Channel *17 with an ERP of 331.0 kW at an antenna height Radiation Center (R/C) of 393.0 meters Above Average Terrain (AAT) using a directional antenna. According to the initial allotment plan set forth in Appendix B of the *Sixth Report and Order* in MM Docket 87-268, FCC 97-115, adopted April 3, 1997, KTCI was allotted pre-transition digital Channel *16 at an antenna height R/C of 392.9 meters AAT and an ERP of 50.0 kW. In its Pre-Election Certification application (FCC Form 381), tpt certified that it would operate its post-transition DTV station based on its allotted replication facilities and in its First Round Channel Election application (FCC Form 382), tpt entered into a negotiated channel election arrangement with Fox Television Stations, Inc. (Fox) to release Channel *16 and lock-in Channel *26 for its final post-transition DTV operation. Fox agreed to allow tpt to use the existing Channel *26 broadband



panel antenna after the transition and tpt agreed to remove its existing Channel *16 antenna from the tower.

In its Seventh Report and Order and Eighth Further Notice of proposed Rule Making, In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service (22 FCC Rcd 15581), the FCC adopted the Final DTV Table of Allotments which assigned Channel *26 as the final post-transition DTV channel for KTCI-DT with an ERP of 63.1 kW and an antenna HAAT of 396.0 m; however, the antenna azimuth pattern was not changed from the licensed Channel *16 pattern (Antenna ID: 74396) to the Fox KMSP-DT Channel *26 antenna azimuth pattern (Antenna ID: 29226). This turned out to be a big problem due to the directional azimuth patterns being so different. Since the KMSP-DT Channel *26 pre-transition DTV facility, licensed to Fox, operated with an ERP of 691 kW, tpt planned all along to file a maximization application to increase the ERP for its final post-transition DTV facility on Channel *26 using the KMSP-DT antenna. However, unknowingly when the channel election process took place, the filing freeze, prohibiting coverage expansions, was not lifted in time for tpt to file a maximization application utilizing masking from the KMSP-DT Channel *26 pre-transition facility. This essentially eliminated any significant maximization opportunities. While most other UHF stations in the St. Paul market are operating their post-transition digital facilities in the neighborhood of 1,000 kW (ERP), KTCI-DT would have been limited to something less than 50 kW (ERP).

TPT filed a Petition for Rule Making (PFRM) requesting authorization to substitute Channel *38 in lieu of Channel *26 for its final post-transition channel and the FCC released a Notice of Proposed Rule Making (NPRM) on July 8, 2008 stating that DTV Channel *38 can be substituted for DTV Channel *26 at St. Paul, MN as proposed by tpt. However, Duluth-Superior Area Educational TV Corporation (Duluth-Superior) filed a counter proposal to the NPRM stating that it wanted to file for a new DTV station using Channel *38 and that tpt could use Channel *23. Accordingly, to accommodate Duluth-Superior, tpt requests authorization to operate with Channel *23 in lieu of the allotted post-transition digital Channel *26 instead of the previously requested Channel *38.



Post-Transition Interference (REQUEST FOR WAIVER)

Initial spacing studies, which considered post-transition DTV allotments, post-transition DTV licenses, post-transition DTV construction permits, post-transition DTV applications and Class A/Class A-eligible low power television (LPTV) stations in the applicable areas surrounding St. Paul, MN, revealed that Channel *23 was a possible option for the KTCI-DT post-transition DTV facility. After the spacing studies were completed additional studies were conducted to verify that the proposed station met the principal community coverage requirements of §73.625(a) of the FCC Rules. Exhibit 10 depicts the proposed KTCI-DT CH *23 F(50,90) 48.0 dBuV/m principal community contour and demonstrates that it would completely encompass the principal community of St. Paul, MN. After determining principal community coverage compliance, a detailed interference study was conducted, which included all applicable surrounding post-transition stations, using the terrain dependent Longley-Rice, point-to-point propagation algorithm detailed in the FCC’s Office of Engineering and Technology Bulletin Number 69 (OET 69).

The following table depicts the allotted (Appendix B) and proposed parameters respectively for the KTCI-DT post-transition DTV facility (see enclosed “Tech Box” extract from FCC Form 340-DTV form):

Facility ID	State	City	Call Sign	DTV Chan	DTV ERP (kW)	DTV HAAT (m)	DTV Antenna ID	DTV Latitude (DDMMSS)	DTV Longitude (DDMMSS)
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Final DTV Table of Allotments (Appendix B) Parameters:

68597	MN	ST. PAUL	KTCI	*26	63.1	396.0	74396	460329	930727
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Proposed Channel *23 Parameters:

68597	MN	ST. PAUL	KTCI						930727
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Accordingly, tpt proposes to amend the DTV Table of Allotments (Appendix B) for its KTCI-DT post-transition DTV facility by making the following changes:



- 1) Change from allotted Channel *26 to the proposed Channel *23.
- 2) Change from allotted 63.1 kW ERP to proposed to 700.0 kW ERP.
- 3) Change from allotted 396.0 m antenna HAAT to proposed 412.9 m antenna HAAT.
- 4) Change from allotted Antenna ID: 74396 (Andrew model ATW30H4-DSC3-17S elliptically polarized directional antenna) to proposed Antenna ID: 29226 (Dielectric model TUP-SP4-12-1 horizontally polarized directional antenna).
- 5) Change (correct) from allotted 45°-03'-29" north latitude to correct 45°-03'-30" north latitude.

The proposed Channel *23, 700 kW ERP facility satisfies the post-transition interference protection provisions of §73.616 of the FCC Rules. Exhibit 13 is a Longley-Rice interference study that was computed using a Sun Microsystems SPARC 5 computer work station loaded with the FCC's DTV analysis software. The interference percentages are exactly the same as the FCC calculations since the study was performed using the same type computer and the same interference analysis software. Referring to Exhibit 13, it can be seen that the proposed KTCI-DT Channel *23 facility would have contour overlap with the KQEG-CA Channel 23 Crescent, MN Class A facility (BLTTA-2004-0602ABA). **Therefore, in support of a waiver of the interference protection requirements pursuant to §73.616(f)(3) of the FCC rules, tpt hereby requests to make full use of terrain shielding and Longley-Rice terrain dependent propagation methods to demonstrate that the proposed facility will not be predicted to cause interference to the KQEG-CA Class A facility.** Exhibit 13 (pages 19-21) demonstrates that the proposed KTCI-DT Channel *23 facility is only predicted to cause an additional 0.1% interference to the KQEG-CA Class A facility which is well below the allowable 0.5% threshold. Exhibit 13 also demonstrates that the proposed KTCI-DT Channel *23 facility would not cause unacceptable interference to any post-transition facility and thus satisfies the post-transition interference protection provisions of 47 C.F.R. §73.616.



Canadian Coordination

The KTCI transmitter site is 353.7 km from the Canadian border which is outside the 300 km culling distance established for DTV stations; therefore, Canadian coordination is not required.

Exhibits

Exhibits 1 and 2 represent KTCI's administration data as well as the antenna and antenna structure specifications for the proposed post-transition digital Channel *23.

Exhibit 3 depicts the profile view of the proposed antenna on the antenna structure with all the appropriate elevations.

Exhibits 4 (11 deg) and 5 (90 deg) display the elevation pattern and Exhibit 6 displays the elevation pattern tabulation.

Exhibit 7 depicts the proposed antenna azimuth pattern and Exhibit 8 depicts the proposed antenna azimuth pattern tabulation.

Exhibit 9 depicts the location of the KTCI-DT transmitter site using the White Bear Lake West, MN Topographic map.

Exhibit 10 is a principal community contour map demonstrating that the proposed KTCI-DT Channel *23 post-transition DTV facility's F(50,90) 48.0 dBuV/m Principal Community contour will completely encompass the principal community of St. Paul, MN.

Exhibit 11 is a contour map comparing the allotted KTCI-DT Channel *26 F(50,90) 40.0 dBuV/m contour (green) and the proposed KTCI-DT Channel *23 F(50,90) 39.7 dBuV/m contour (red).



Exhibit 12 is a contour map comparing the initial KTCI-DT Channel *38 F(50,90) 41.0 dBuV/m contour (red) and the proposed KTCI-DT Channel *23 F(50,90) 39.7 dBuV/m contour (green). This exhibit demonstrates that the proposed Channel *23 facility will have a greater coverage area than the initial Channel *38 facility.

Exhibit 13 is a Longley-Rice interference study computed using a Sun Microsystems SPARC 5 computer work station loaded with the FCC's DTV analysis software. The exhibit demonstrates compliance with the full-service post-transition DTV interference protection requirements as well as the Class A interference protection requirements.

Environmental Impact

The proposed construction will have no significant environmental impact as defined in §1.1307 of the FCC Rules. The digital transmitter, 6-1/8 inch transmission line and horizontally polarized antenna system shall produce an ERP of 700.0 kW. It was determined that the maximum lobe of radiation from the base of the tower would occur at approximately 1.21 miles from the base of the tower (1.24-mile radial distance from the antenna center). At approximately 1.21 miles from the base of the tower, the depression angle of the main lobe will be approximately 12° below the horizontal. At that point, the relative field is 0.184 and the power density six feet above the ground will be approximately 0.0002 mW/cm². This equates to only 0.01% of the Maximum Permissible Exposure (MPE) limits for Occupational/Controlled Exposure and only 0.06% of the MPE limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute (ANSI). Since operation of the proposed KTCI-DT Channel *23 post-transition DTV facility will not exceed 5.0% of the MPE limit for Occupational/Controlled Exposure or General Population/Uncontrolled Exposure at any point on the ground, the proposed facility is not considered a "significant contributor" to the RF exposure environment pursuant to OET Bulletin 65, Edition 97-01. Therefore, contributions of



Kessler and Gehman Associates, Inc.

Telecommunications Consulting Engineers

exposure from other sources were not accounted for in this analysis. It is safe to conclude that the emissions will be insignificant and well within the maximum allowable requirements.

If other antennas are placed on the tower in the future, the licensee will cooperate with those users by reducing or completely terminating the power to the antenna when maintenance workers are in danger from the electromagnetic radiation emanating from the antenna. It is also understood that additional antennas on the support structure could increase the overall RF exposure levels and it is the responsibility of each licensee to ensure that the total RF exposure resulting from the operation of all antennas on the support structure do not exceed the maximum permissible exposure level at any point on the ground.

Certification

This technical statement was prepared by William T. Godfrey, Telecommunications Consultant with Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and has been working in the field of radio and television broadcast consulting since 1998. He graduated from the University of North Florida with a Bachelor of Arts degree in Criminal Justice and a minor in Mathematics in 1993. As a Professional in the field of Telecommunications he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.



KESSLER AND GEHMAN ASSOCIATES, INC.

A handwritten signature in cursive script that reads "William T. Godfrey, Jr." is written over a horizontal line.

WILLIAM T. GODFREY, JR.
Telecommunications Technical Consultant

22 April, 2009

PROPOSED KTCI-DT CHANNEL 23

PETITION FOR RULE MAKING

ST. PAUL, MINNESOTA

ENGINEERING SPECIFICATIONS

A. Transmitter Site:

Geographic coordinates (NAD27):

North Latitude: _____ 45° 03' 30"

West Longitude: _____ 93° 07' 27"

Transmitter Site Address: **540 Gramsie Road
Shoreview, MN 55126-7021**

B. Main Studio Address:

**Twin Cities Public Television
172 East Fourth Street
Saint Paul, MN 55101**

Post-Transition Facility:

DTV Channel: Number: _____ 23
Frequency: _____ 524-530 MHz
Offset: _____ N/A

C. Antenna Height:

Height of Site Above Mean Sea Level (AMSL): _____ 277.0 M
Overall Height of Structure Above Ground: _____ 446.8 M
(including all appurtenances)
Overall Height of Structure Above Mean Sea Level: _____ 723.8 M
(including all appurtenances)
Height of Site Above Average Terrain: _____ -3.1 M
Antenna Height Radiation Center (R/C) Above Ground: _____ 416.0 M
Antenna Height R/C Above Mean Sea Level: _____ 693.0 M
Average of All Non-Odd Radials: _____ 280.1 M
Antenna Height R/C Above Average Terrain: _____ 412.9 M

D. System Parameters – Horizontal Polarization:

Transmitter Power Required: _____ 27.5 kW
Maximum Power Input to Antenna: _____ 18.5 kW
Transmission Line Loss: _____ 1.73 dB
Transmission Line Efficiency: _____ 67.1%
Maximum Antenna Gain in Beam Maximum: _____ 15.79 dB
Maximum Antenna Gain in Horizontal Plane: _____ 14.38 dB
Maximum Effective Radiated Power: _____ 28.45 dBk
In Beam Maximum: _____ 700.0 kW
Maximum Effective Radiated Power: _____ 27.04 dBk
In Horizontal Plane: _____ 505.9 kW

PROPOSED KTCI-DT CHANNEL 23

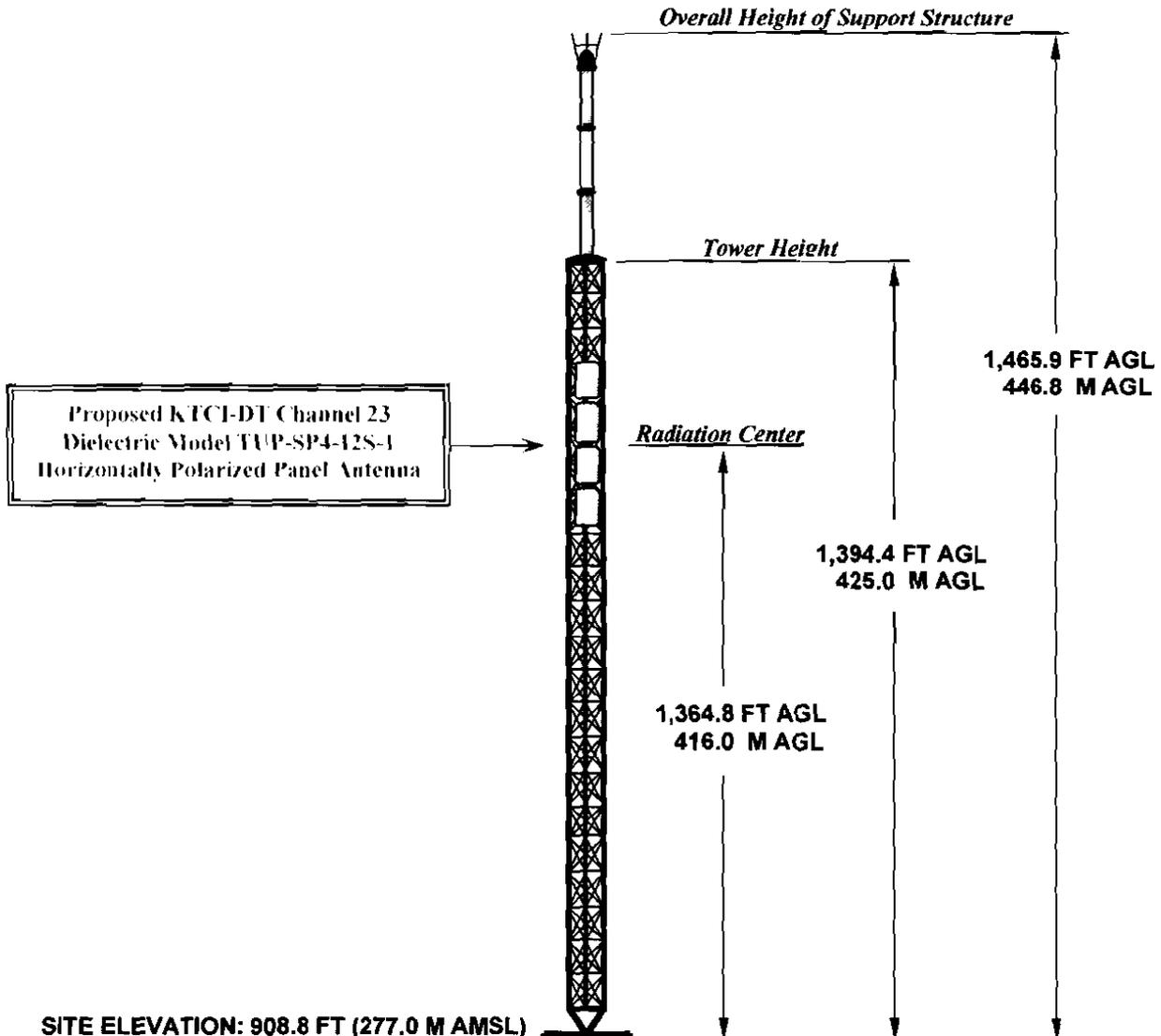
PETITION FOR RULE MAKING

ST. PAUL, MINNESOTA

**DATA FOR PROPOSED DIRECTIONAL
TRANSMITTING ANTENNA**

- A. **Antenna:** Dielectric Model TUP-SP4-12S-1, Horizontally Polarized, Directional, Broadband, Panel Antenna.
- B. **Electrical Beam Tilt:** 0.75 degrees
- C. **Mechanical Beam Tilt:** None
- D. **Maximum Power Gain** **Horizontal Polarization**
Maximum: 37.9 (15.79 dB)
Horizontal: 27.4 (14.38 dB)
- E. **Length:** 45.3 feet (13.8 meters) not including appurtenances.
- F. **TPO:** 27.5 kW
- G. **Null Fill:** 20.0%
- H. **Transmission Line:** 6-1/8" 50 ohm EHT digiTLine
- I. **Transmission Line Attenuation:** 0.119 dB/100-feet
- J. **Transmission Line Length:** 1,450 feet
- K. **Transmission Line Loss:** 1.73 dB

KTCI-DT CHANNEL 23 TOWER ELEVATION VIEW



OVERALL HEIGHT AGL:	446.8 M
OVERALL HEIGHT AMSL:	723.8 M
RADIATION CENTER AGL:	416.0 M
RADIATION CENTER AMSL:	693.0 M
RADIATION CENTER HAAT:	412.9 M
AVG OF ALL NON-ODD RADIALS:	280.1 M
SITE HAAT:	-3.1 M

COORDINATES (NAD 27):
 N. LATITUDE 45° 03' 30"
 W. LONGITUDE 93° 07' 27"
Antenna Structure Registration Number:
 1022899

NOTE: NOT TO SCALE

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 Gainesville, Florida 32607

KTCI-DT CHANNEL 23
 ST. PAUL, MINNESOTA
 20090417 EXHIBIT 3

Proposal Number

Date

Call Letters

KTCI-DT

Channel

Location

Minneapolis, MN

Customer

Antenna Type

TUP-SP4-12S-1

ELEVATION PATTERN: 6 Panels

RMS Gain at Main Lobe **12.70 (11.04 dB)**

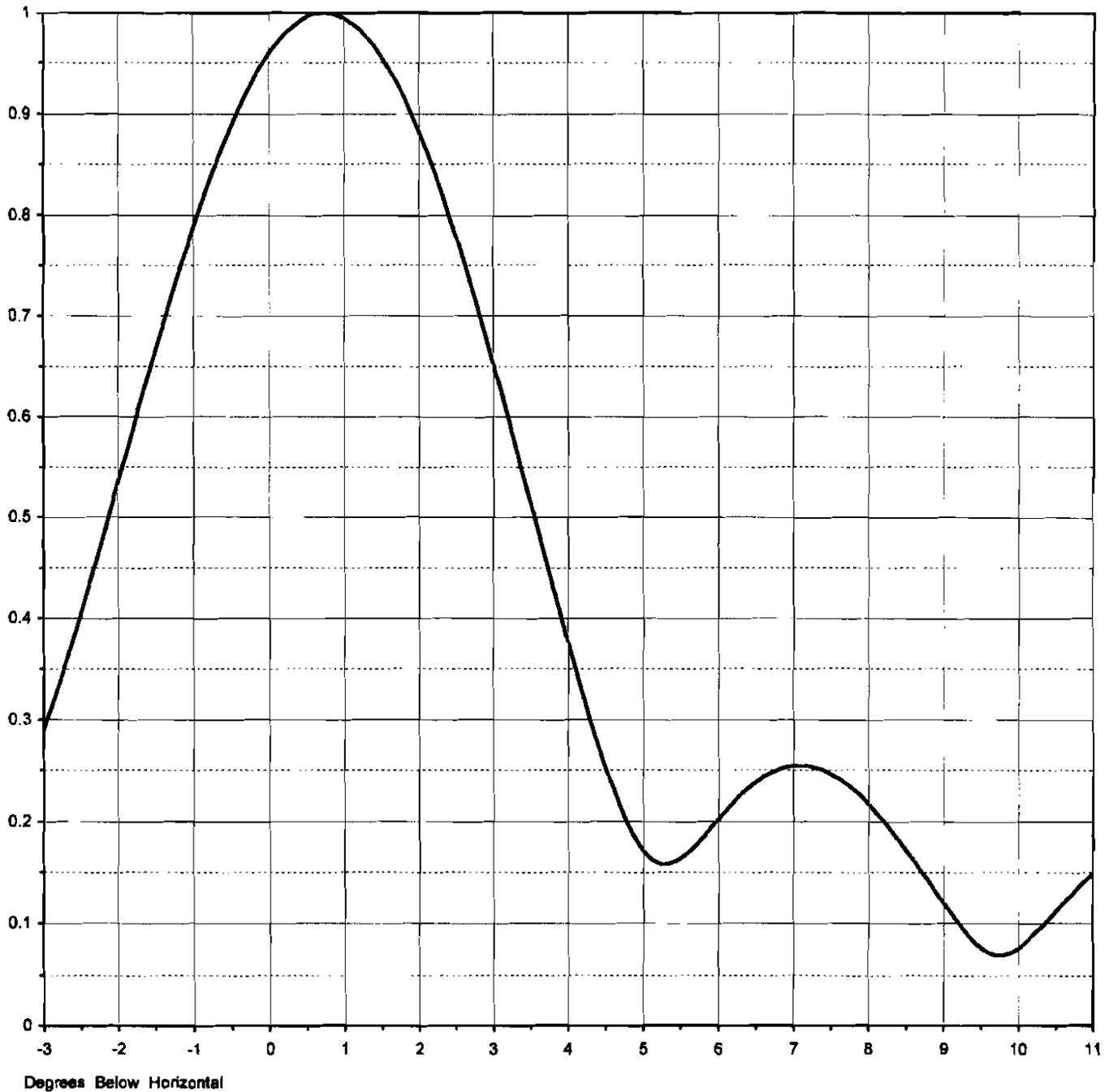
Beam Tilt **0.75 deg**

RMS Gain at Horizontal **11.70 (10.68 dB)**

Frequency **545.00 MHz**

Calculated / Measured **Calculated**

Drawing # **06U127075**



Proposal Number

Date

Call Letters

KTCI-DT Channel

Location

Minneapolis, MN

Customer

Antenna Type

TUP-SP4-12S-1

ELEVATION PATTERN: 6 Panels

RMS Gain at Main Lobe **12.70 (11.04 dB)**

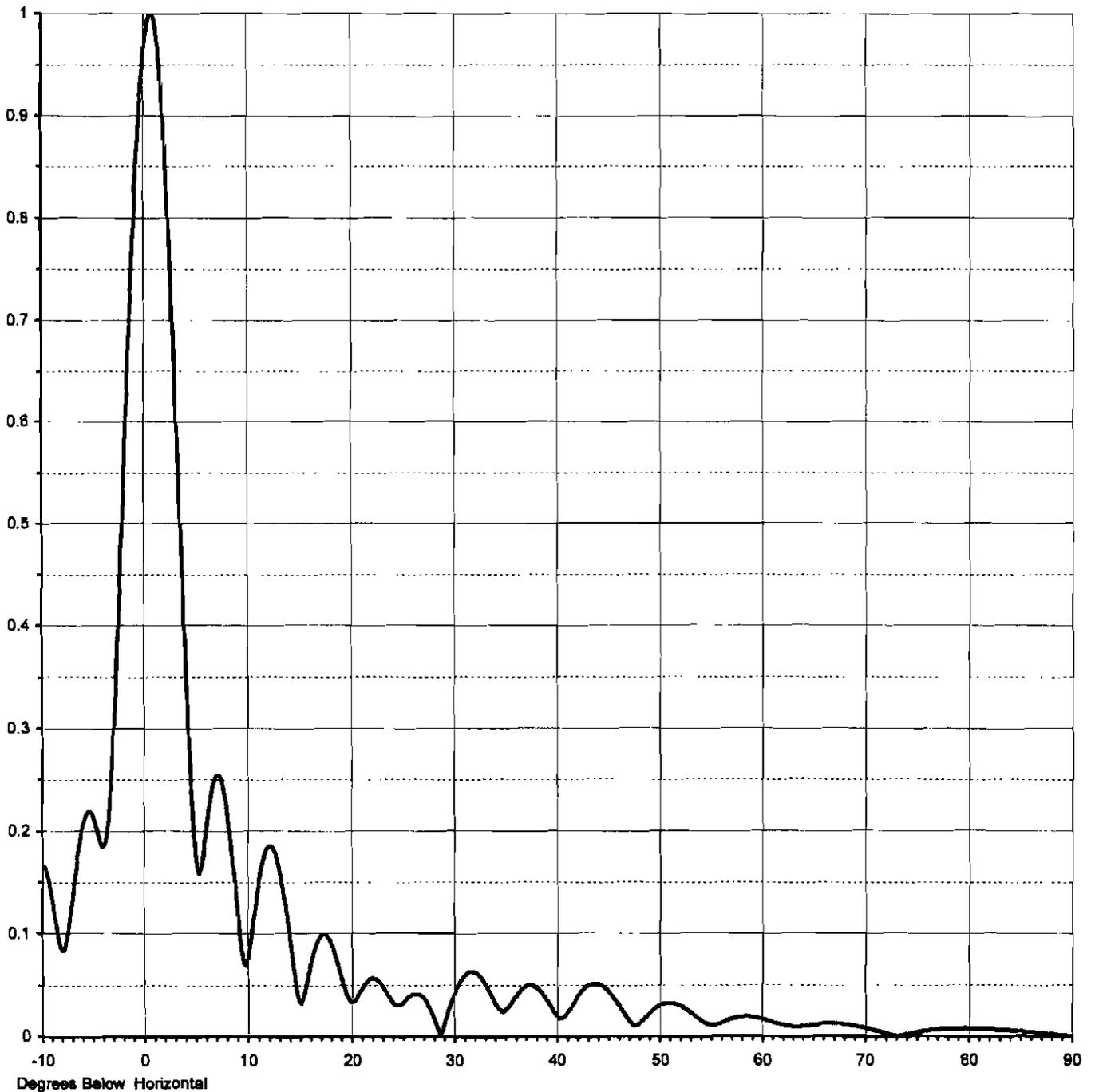
Beam Tilt **0.75 deg**

RMS Gain at Horizontal **11.70 (10.68 dB)**

Frequency **545.00 MHz**

Calculated / Measured **Calculated**

Drawing # **06U127075-90**



Proposal Number

Date

Call Letters

KTCI-DT Channel

Location

Minneapolis, MN

Customer

Antenna Type

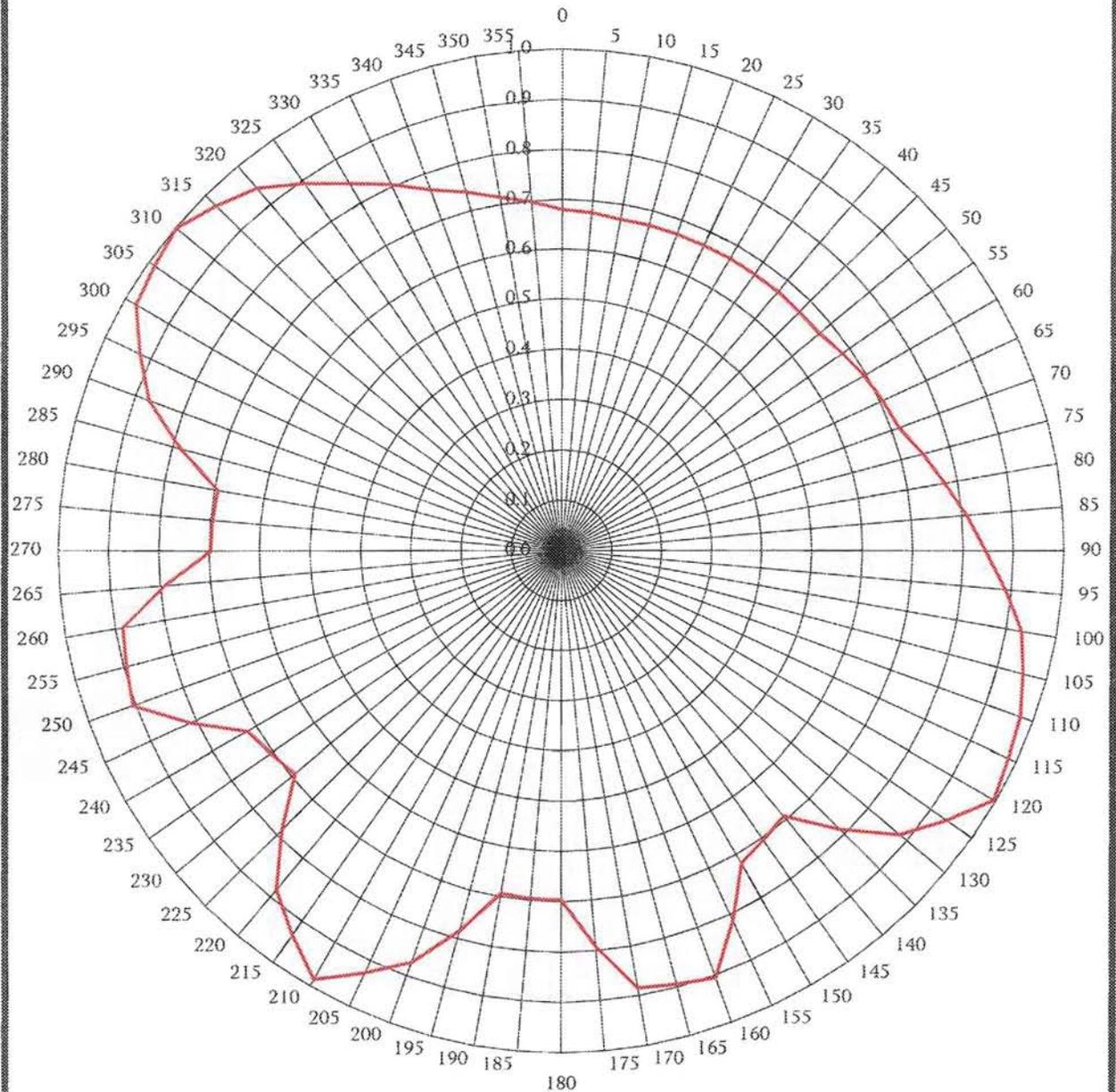
TUP-SP4-12S-1

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: 06U127075-90

Angle	Field										
-10.0	0.167	2.4	0.801	10.6	0.112	30.5	0.050	51.0	0.032	71.5	0.004
-9.5	0.157	2.6	0.755	10.8	0.127	31.0	0.058	51.5	0.031	72.0	0.003
-9.0	0.133	2.8	0.705	11.0	0.142	31.5	0.063	52.0	0.030	72.5	0.002
-8.5	0.103	3.0	0.653	11.5	0.170	32.0	0.063	52.5	0.027	73.0	0.000
-8.0	0.083	3.2	0.598	12.0	0.184	32.5	0.059	53.0	0.023	73.5	0.001
-7.5	0.096	3.4	0.542	12.5	0.182	33.0	0.052	53.5	0.020	74.0	0.002
-7.0	0.134	3.6	0.486	13.0	0.166	33.5	0.043	54.0	0.016	74.5	0.003
-6.5	0.174	3.8	0.430	13.5	0.138	34.0	0.033	54.5	0.013	75.0	0.004
-6.0	0.205	4.0	0.376	14.0	0.102	34.5	0.026	55.0	0.011	75.5	0.005
-5.5	0.219	4.2	0.323	14.5	0.064	35.0	0.025	55.5	0.011	76.0	0.005
-5.0	0.214	4.4	0.275	15.0	0.035	35.5	0.030	56.0	0.012	76.5	0.006
-4.5	0.197	4.6	0.232	15.5	0.041	36.0	0.038	56.5	0.014	77.0	0.006
-4.0	0.185	4.8	0.196	16.0	0.065	36.5	0.045	57.0	0.016	77.5	0.007
-3.5	0.211	5.0	0.172	16.5	0.085	37.0	0.049	57.5	0.017	78.0	0.007
-3.0	0.290	5.2	0.160	17.0	0.097	37.5	0.050	58.0	0.018	78.5	0.007
-2.8	0.333	5.4	0.160	17.5	0.099	38.0	0.048	58.5	0.019	79.0	0.007
-2.6	0.380	5.6	0.170	18.0	0.092	38.5	0.043	59.0	0.018	79.5	0.007
-2.4	0.430	5.8	0.185	18.5	0.078	39.0	0.036	59.5	0.018	80.0	0.007
-2.2	0.482	6.0	0.202	19.0	0.060	39.5	0.028	60.0	0.017	80.5	0.007
-2.0	0.535	6.2	0.218	19.5	0.043	40.0	0.020	60.5	0.015	81.0	0.007
-1.8	0.588	6.4	0.232	20.0	0.033	40.5	0.017	61.0	0.014	81.5	0.007
-1.6	0.640	6.6	0.243	20.5	0.036	41.0	0.021	61.5	0.012	82.0	0.007
-1.4	0.691	6.8	0.250	21.0	0.045	41.5	0.029	62.0	0.011	82.5	0.007
-1.2	0.740	7.0	0.254	21.5	0.053	42.0	0.037	62.5	0.010	83.0	0.006
-1.0	0.787	7.2	0.254	22.0	0.057	42.5	0.044	63.0	0.009	83.5	0.006
-0.8	0.830	7.4	0.250	22.5	0.055	43.0	0.049	63.5	0.009	84.0	0.006
-0.6	0.869	7.6	0.242	23.0	0.049	43.5	0.051	64.0	0.010	84.5	0.005
-0.4	0.904	7.8	0.231	23.5	0.041	44.0	0.051	64.5	0.010	85.0	0.005
-0.2	0.934	8.0	0.217	24.0	0.033	44.5	0.049	65.0	0.011	85.5	0.004
0.0	0.959	8.2	0.201	24.5	0.030	45.0	0.045	65.5	0.011	86.0	0.004
0.2	0.978	8.4	0.182	25.0	0.032	45.5	0.038	66.0	0.012	86.5	0.003
0.4	0.991	8.6	0.162	25.5	0.037	46.0	0.031	66.5	0.012	87.0	0.003
0.6	0.999	8.8	0.141	26.0	0.041	46.5	0.023	67.0	0.012	87.5	0.002
0.8	1.000	9.0	0.120	26.5	0.041	47.0	0.016	67.5	0.012	88.0	0.002
1.0	0.995	9.2	0.100	27.0	0.038	47.5	0.010	68.0	0.011	88.5	0.001
1.2	0.984	9.4	0.083	27.5	0.030	48.0	0.011	68.5	0.011	89.0	0.001
1.4	0.967	9.6	0.072	28.0	0.019	48.5	0.016	69.0	0.010	89.5	0.000
1.6	0.944	9.8	0.070	28.5	0.006	49.0	0.021	69.5	0.009	90.0	0.000
1.8	0.916	10.0	0.072	29.0	0.009	49.5	0.026	70.0	0.008		
2.0	0.882	10.2	0.082	29.5	0.025	50.0	0.029	70.5	0.007		
2.2	0.844	10.4	0.096	30.0	0.038	50.5	0.031	71.0	0.005		

RELATIVE FIELD AZIMUTH PATTERN



DIELECTRIC MODEL TUP-SP4-12S-1

BEAM MAXIMA AT 305°

AZIMUTH GAIN: 3.0 (4.75 dB)

POLARIZATION: HORIZONTAL

KESSLER AND GEHMAN

TELECOMMUNICATIONS CONSULTING ENGINEERS

507 N.W. 60th Street, Suite C
Gainesville, Florida 32607

KTCI-DT CHANNEL 23

ST. PAUL, MINNESOTA

20090417

EXHIBIT 7

KTCI-DT CHANNEL 23

ST. PAUL, MINNESOTA

TABULATION OF RELATIVE FIELD FOR DIRECTIONAL ANTENNA

AZIMUTH	RELATIVE FIELD	AZIMUTH	RELATIVE FIELD
N000°E	0.680	N180°E	0.697
N010°E	0.670	N190°E	0.694
N020°E	0.670	N200°E	0.871
N030°E	0.670	N210°E	0.985
N040°E	0.670	N220°E	0.882
N050°E	0.670	N230°E	0.691
N060°E	0.695	N240°E	0.720
N070°E	0.715	N250°E	0.905
N080°E	0.774	N260°E	0.885
N090°E	0.845	N270°E	0.697
N100°E	0.930	N280°E	0.694
N110°E	0.972	N290°E	0.871
N120°E	0.995	N300°E	0.976
N130°E	0.882	N310°E	0.998
N140°E	0.691	N320°E	0.943
N150°E	0.720	N330°E	0.845
N160°E	0.905	N340°E	0.765
N170°E	0.885	N350°E	0.715

MAXIMUM RELATIVE FIELD OF 1.000 AT N305°E
MINIMUM RELATIVE FIELD OF 0.670 AT N010°E - N050°E

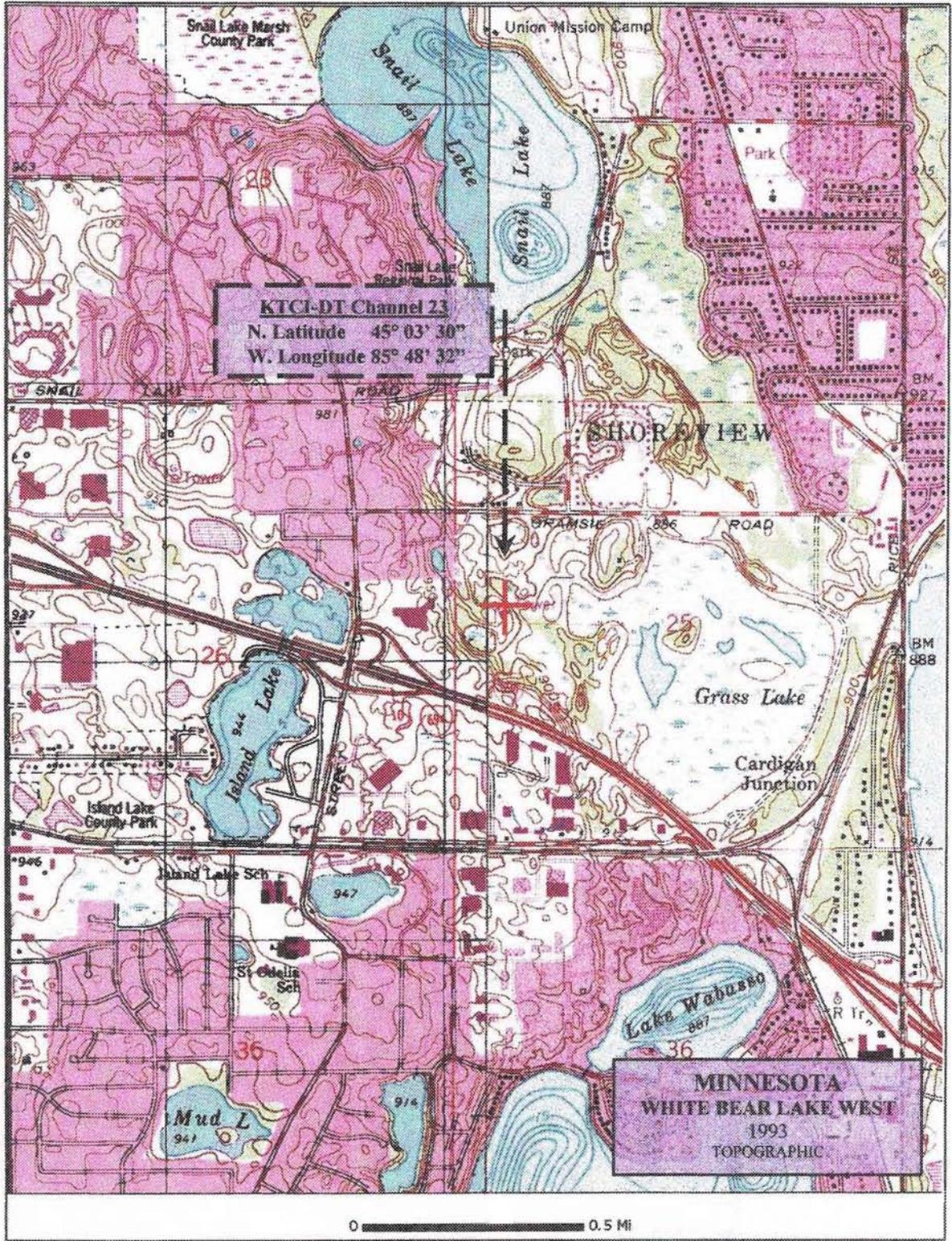
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Gainesville, Florida 32607

KTCI-DT CHANNEL 23

ST. PAUL, MINNESOTA

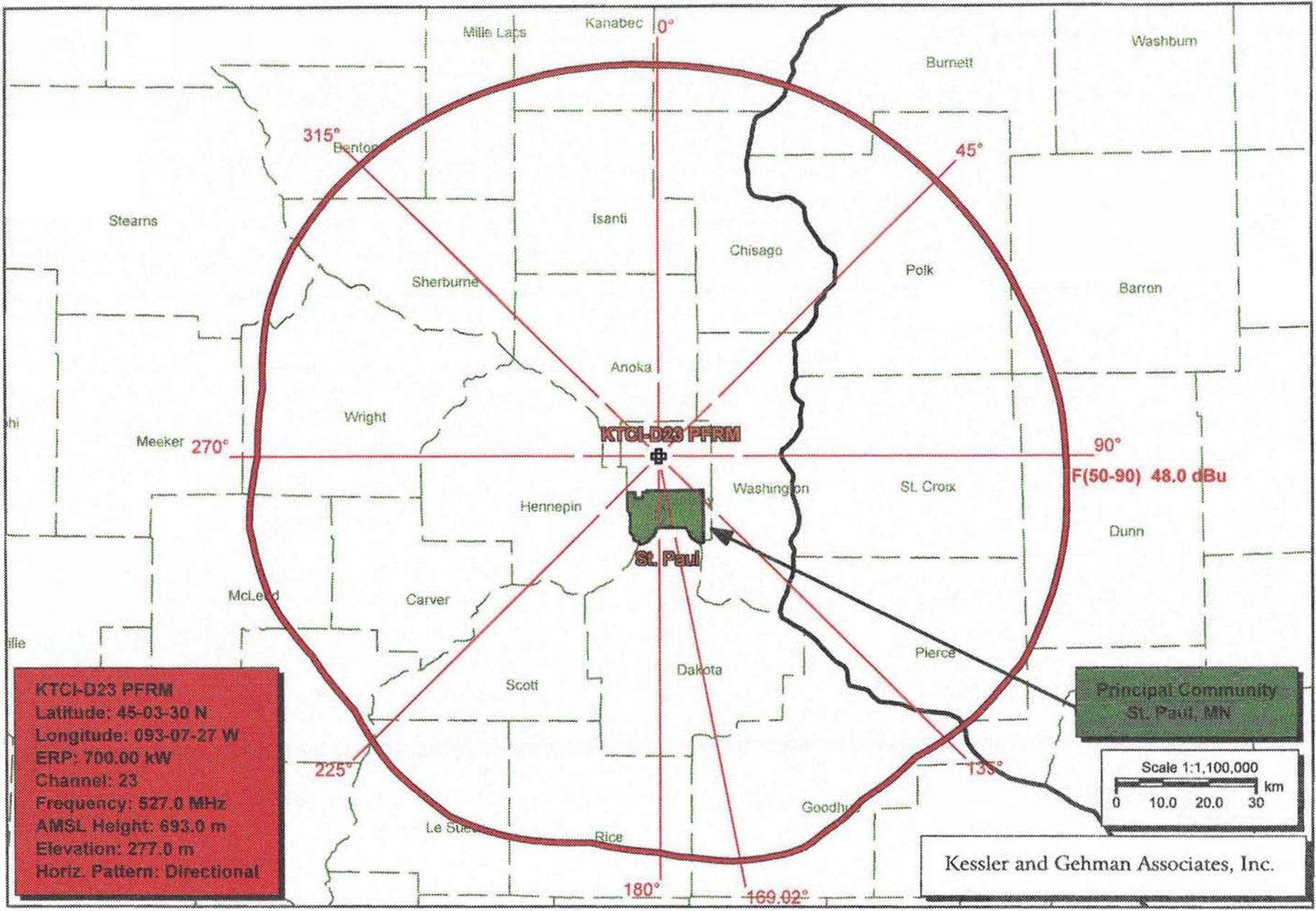
20090417

EXHIBIT 8

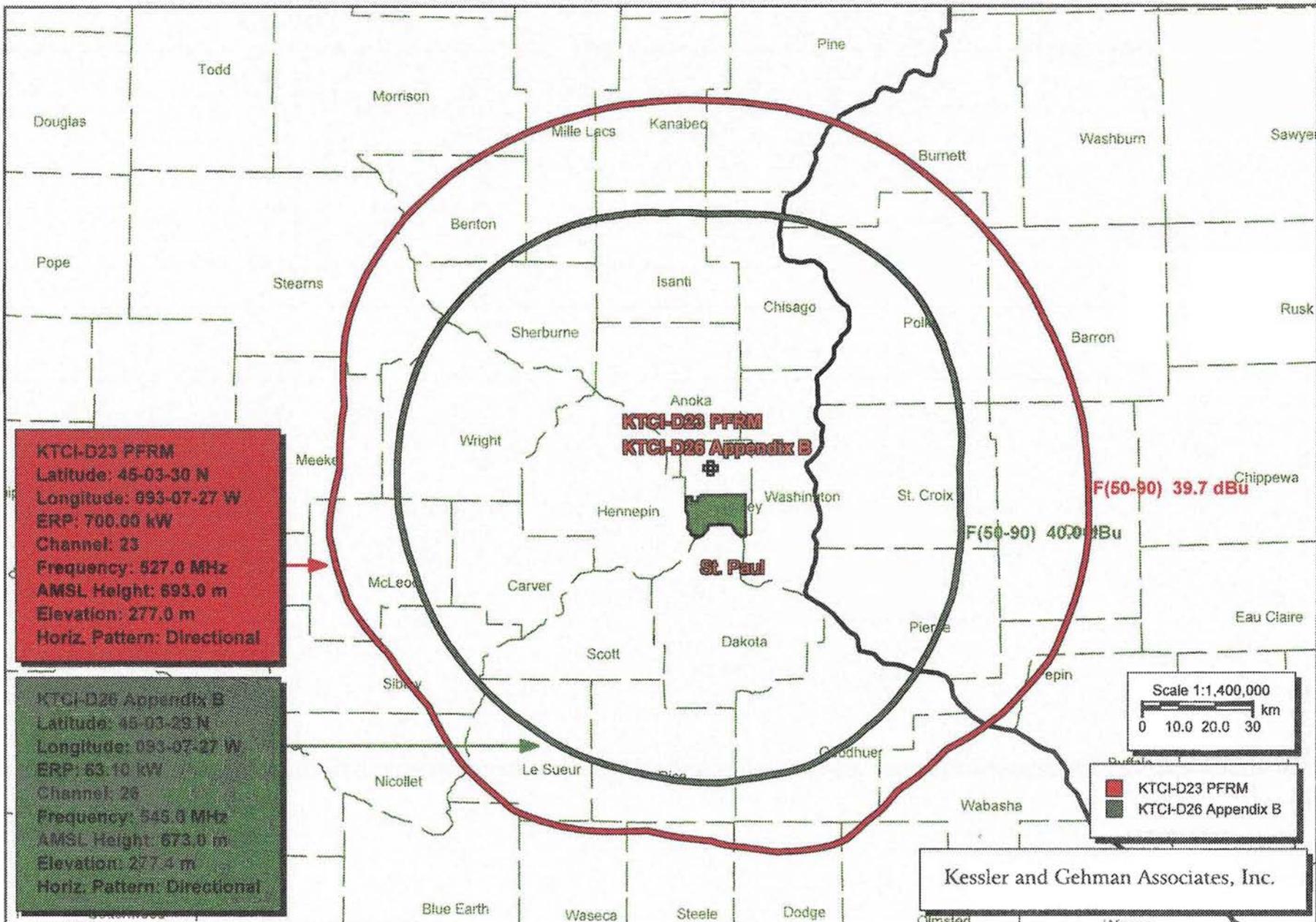


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 Gainesville, Florida 32607

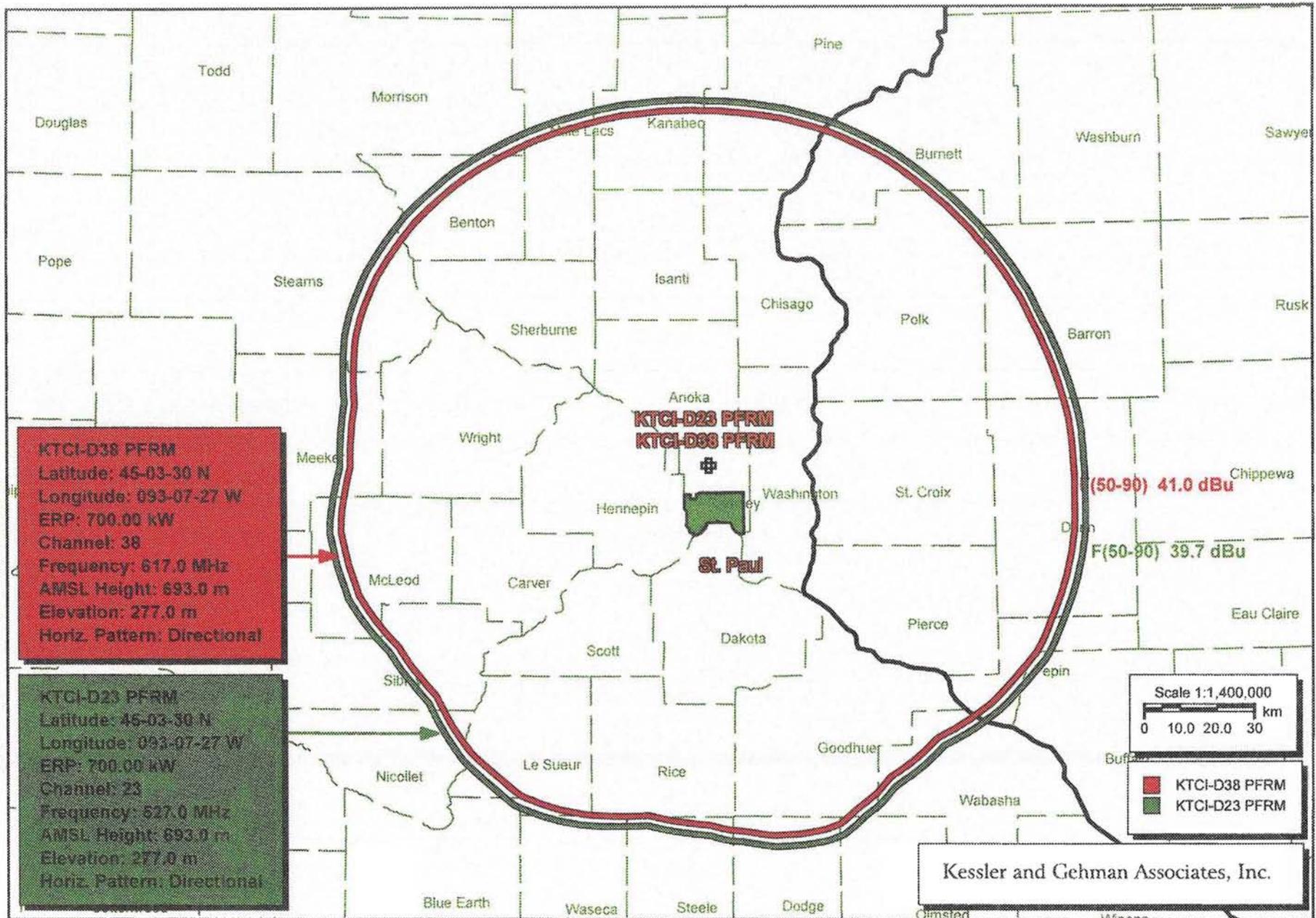
KTCI-DT CHANNEL 23
 ST. PAUL, MINNESOTA
 20090417 EXHIBIT 9



KTCI-DT Channel 23 F(50,90) 48.0 dBuV/m Principal Community Contour



KTCI-D26 Appendix B (green) vs. KTCI-D23 PFRM



KTCI-D38 PFRM (red) vs. KTCI-D23 PFRM (green)

Percent allowed new interference: 0.500
Percent allowed new interference to Class A: 0.500
Census data selected 2000
Post Transition Data Base Selected ./data_files/pt_tvdb.sff

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 04-20-2009 Time: 12:48:48

Record Selected for Analysis

KTCI-D23 USERRECORD-01 ST. PAUL MN US
Channel 23 ERP 700. kW HAAT 413. m RCAMSL 00693 m
Latitude 045-03-30 Longitude 0093-07-27
Status APP Zone 2 Border
Dir Antenna Make usr Model USRPAT01 Beam tilt N Ref Azimuth 0.
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	323.680	414.1	96.9
45.0	314.230	406.3	96.2
90.0	499.818	397.8	99.5
135.0	433.008	406.6	98.9
180.0	340.066	426.6	98.2
225.0	433.008	417.7	99.7
270.0	340.066	420.4	97.7
315.0	659.309	412.7	103.2

Evaluation toward Class A Stations

Contour overlap to Class A station
KQEG-CA 23 LA CRESCENT MN BLTTA 20040602ABA
D/U ratio at contour 29.59 dB
Offset Proposed Offset Class A - Required D/U ratio: 34.0
Radial 0.0 degrees
Bearing to point on contour 128.3 degrees
D/U ratio at contour 29.65 dB
Radial 1.0 degrees
Bearing to point on contour 128.2 degrees

D/U ratio at contour 29.70 dB
Radial 2.0 degrees
Bearing to point on contour 128.1 degrees
D/U ratio at contour 29.76 dB
Radial 3.0 degrees
Bearing to point on contour 128.0 degrees
D/U ratio at contour 29.82 dB
Radial 4.0 degrees
Bearing to point on contour 127.9 degrees
D/U ratio at contour 29.88 dB
Radial 5.0 degrees
Bearing to point on contour 127.8 degrees
D/U ratio at contour 29.94 dB
Radial 6.0 degrees
Bearing to point on contour 127.7 degrees
D/U ratio at contour 30.00 dB
Radial 7.0 degrees
Bearing to point on contour 127.6 degrees
D/U ratio at contour 30.07 dB
Radial 8.0 degrees
Bearing to point on contour 127.5 degrees
D/U ratio at contour 30.13 dB
Radial 9.0 degrees
Bearing to point on contour 127.5 degrees
D/U ratio at contour 30.21 dB
Radial 10.0 degrees
Bearing to point on contour 127.4 degrees
D/U ratio at contour 30.27 dB
Radial 11.0 degrees
Bearing to point on contour 127.3 degrees
D/U ratio at contour 30.34 dB
Radial 12.0 degrees
Bearing to point on contour 127.3 degrees
D/U ratio at contour 30.41 dB
Radial 13.0 degrees
Bearing to point on contour 127.2 degrees
D/U ratio at contour 30.48 dB
Radial 14.0 degrees
Bearing to point on contour 127.1 degrees
D/U ratio at contour 30.56 dB
Radial 15.0 degrees
Bearing to point on contour 127.1 degrees
D/U ratio at contour 30.63 dB
Radial 16.0 degrees
Bearing to point on contour 127.0 degrees
D/U ratio at contour 30.71 dB
Radial 17.0 degrees
Bearing to point on contour 126.9 degrees
D/U ratio at contour 30.78 dB
Radial 18.0 degrees
Bearing to point on contour 126.9 degrees
D/U ratio at contour 30.86 dB
Radial 19.0 degrees
Bearing to point on contour 126.8 degrees
D/U ratio at contour 30.94 dB
Radial 20.0 degrees
Bearing to point on contour 126.8 degrees