

***APPLICATION FOR CONSTRUCTION PERMIT***  
***DIGITAL COMPANION CHANNEL***

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KCPM-LP – FARGO, NORTH DAKOTA  
CHANNEL 23

G.I.G., INC.

JULY 2021

## **APPLICATION FOR CONSTRUCTION PERMIT**

The following engineering statement and attached exhibits have been prepared for **G.I.G., Inc.** ("GIG"), licensee of analog low power television station KCPM-LP (formerly KVNJ-LP) at Fargo, North Dakota, and are in support of their application for construction permit for a new digital companion channel low power television facility at Fargo, North Dakota. The Facility ID for the current analog facility is 21187, and is licensed under FCC File No. BLTVL-20020207AAQ.

KCPM-LP is licensed as an analog low-power television station on channel 2 at a center of radiation of 337 meters above mean sea level, 61 meters above ground level, with a maximum effective radiated power of 1.13 kW utilizing a directional antenna. The proposed digital companion channel facility would be located at a site that is different from that specified under the current license. It is proposed that the digital companion channel facility operate on channel 23 with a maximum effective radiated power of 0.700 kW at a center of radiation of 344.5 meters above mean sea level, 69.5 meters above ground level, utilizing a non-directional antenna.

Exhibit E-1 makes a comparison between the proposed and licensed service contours. This map demonstrates that the licensed 62 dBu F(50,50) service contour is wholly contained within the proposed 51 dBu F(50,90) service contours. Additionally, as is demonstrated by this map, the proposed transmitter site located within 30 miles of the licensed transmitter site.

The proposed technical parameters would not result in interference to other proposed, authorized, or licensed facilities in excess of that permitted under the Commission's Rules. Exhibit E-2 is the tabular output from *TVStudy*. This study demonstrates no interference check failures.

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The proposed facility would not constitute a significant environmental impact, and is exempt from processing. The proposed antenna would be located at an existing structure that is registered with the Commission.<sup>1</sup> The registered structure is a high rise building in Fargo, that serves as the communications platform for several other communications tenants.

The proposed facility would not constitute a significant environmental impact, and is exempt from environmental processing. The proposed antenna would be mounted to an existing tower that is registered with the Commission. The addition of the antenna to this tower would not increase the existing environmental impact already present from the tower. The rooftop of this building functions as a controlled environment. With regard to persons at ground level, the worst-case power density there assuming a downward radiation relative field of 0.2 is  $0.205 \mu\text{W}/\text{cm}^2$ . This value is significantly less than that permitted as the upper limit under the uncontrolled environment condition of the Commission's safety standard. This value was calculated assuming a height of 2 meters above ground level.

The output from *TVStudy* also demonstrates that the predicted 24.66 dBu interfering contour does not cross the Canadian border. Thus, coordination with Industry Canada does not appear necessary. The proposed facility is located at a significant distance from the Grand Island, Nebraska FCC monitoring station, and is not located within the West Virginia quiet zone or the Table Mountain receiving zone.

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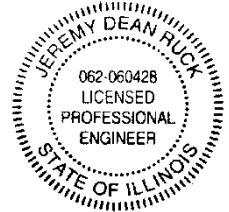
<sup>1</sup> See Antenna Structure Registration Number 1252428.

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The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature  
License Expires November 30, 2021

Jeremy D. Ruck, PE  
July 7, 2021

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7.7.2021

**KCPM-LP.X**

PROPOSED

Latitude: 46-52-22.10 N

Longitude: 096-47-00.60 W

ERP: 0.70 kW

Channel: 23

Frequency: 527.0 MHz

AMSL Height: 344.5 m

Horiz. Pattern: Omni

Prop Model: FCC Contour

**KCPM-LP**

BLTVL-20020207AAQ

Latitude: 46-51-39 N

Longitude: 096-51-17 W

ERP: 1.13 kW

Channel: 2+

Frequency: 57.5 MHz

AMSL Height: 337.0 m

Horiz. Pattern: Directional

Prop Model: FCC Contour

Jeremy Ruck &amp; Associates, Inc.

- Proposed KCPM DCC 51 dBu F(50,90) Contour
- Licensed KCPM-LP 62 dBu F(50,50) Contour
- Proposed Site 30 mile Site Radius

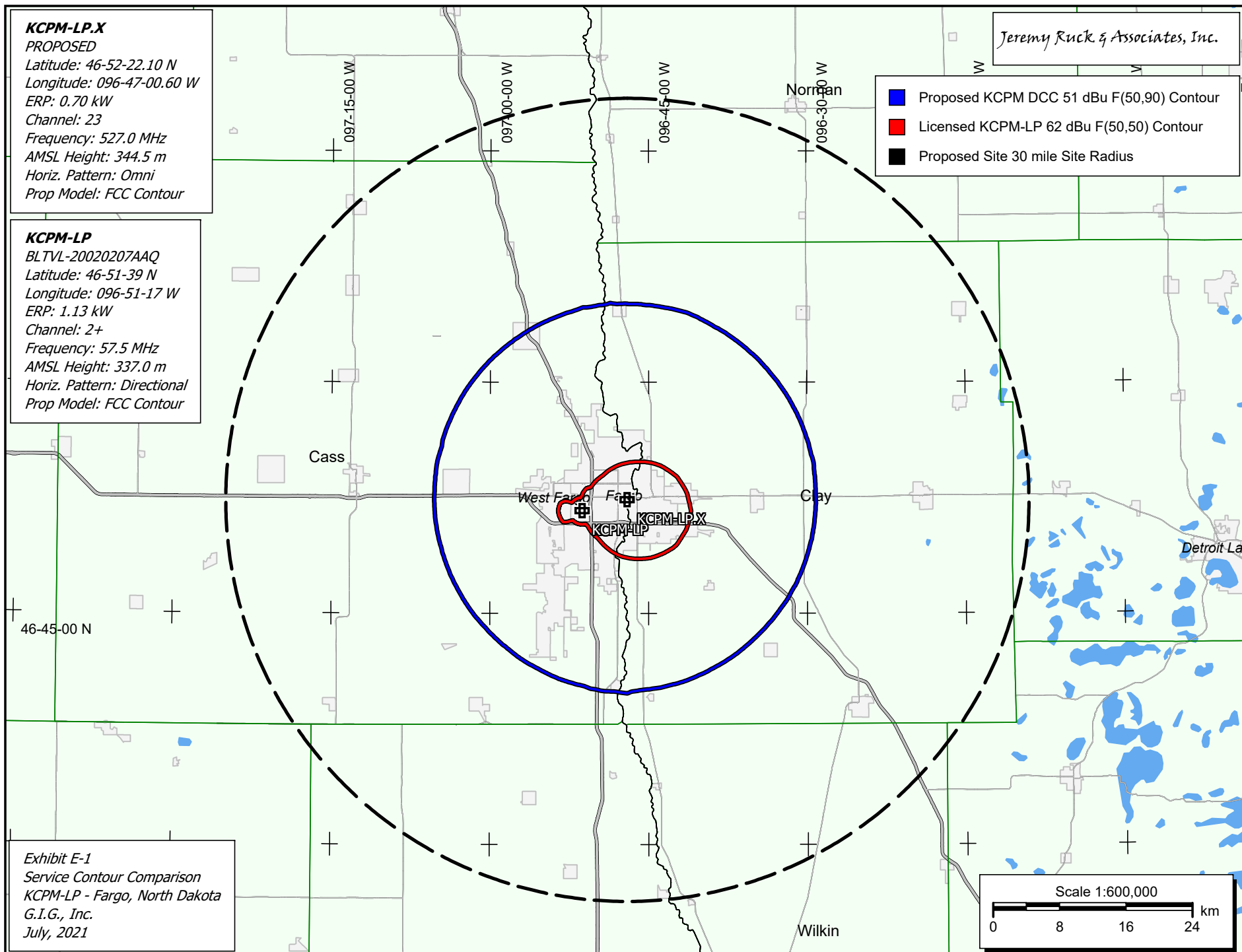


Exhibit E-1

Service Contour Comparison

KCPM-LP - Fargo, North Dakota

G.I.G., Inc.

July, 2021

## Exhibit E-2 - TVStudy Interference Study

tvstudy v2.2.5 (4uoc83)

Database: 127.0.0.1, Study: KCPM-LD CH 23 ASRN 1252428 344.5 m AMSL 0.7 kW ERP TLP-8A FS 0.5-0.1, Model: Longley-Rice  
Start: 2021.07.07 13:51:45

Study created: 2021.07.07 13:51:44

Study build station data: LMS TV 2021-07-07

Proposal: KCPM-LD D23 LD LIC FARGO, ND  
File number: BLTVL20020207AAQ  
Facility ID: 21187  
Station data: User record  
Record ID: 344  
Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	K48DV-D	D22	LD	LIC	ALEXANDRIA, MN	BLANK0000063271	146.3 km
No	K49LO-D	D22	LD	LIC	RED LAKE, MN	BLANK0000068192	170.0
No	K47JC-D	D22	LD	CP	WADENA, MN	BLANK0000053425	137.9
No	K22OG-D	D22	LD	CP	FARGO, ND	BLANK0000072032	3.7
No	K22KO-D	D22	LD	CP	GRAND FORKS, ND	BNPDTL20100505AJU	137.9
No	K22KI-D	D22	LD	CP	ROSHOLT, SD	BNPDTL20100505ADS	112.3
No	K22KF-D	D22	LD	CP	WATERTOWN, SD	BNPDTL20100331AFD	221.9
No	K23MH-D	D23	LD	CP	ALEXANDRIA, MN	BNPDTL20100505AKP	149.8
No	K23KZ-D	D23	LD	LIC	BIGFORK/MARCELL, MN	BLDFT20111107ALI	250.0
No	K23MQ-D	D23	LD	CP	DULUTH, MN	BNPDTL20100428ABY	335.4
No	K23FP-D	D23	LD	LIC	OLIVIA, MN	BLDFT20120213ABJ	277.6
No	K23MF-D	D23	LD	LIC	ST. JAMES, MN	BLANK0000123670	351.3
No	KTCI-TV	D23	DT	LIC	ST. PAUL, MN	BLDFT20100326AAI	347.2
No	K43JQ-D	D23	LD	CP	BISMARCK, ND	BLANK0000051834	303.4
No	K23MB-D	D23	LD	CP	MINOT, ND	BNPDTL20100331AEZ	370.1
No	KSXF-LD	D23	LD	LIC	SIOUX FALLS, SD	BLANK0000122223	366.8
No	K23LI-D	D23	LD	CP	WATERTOWN, SD	BNPDTL20100331AFE	221.9
No	KSAX	D24	DT	LIC	ALEXANDRIA, MN	BLANK0000074900	179.5
No	K47MY-D	D24	LD	LIC	RED LAKE, MN	BLANK0000068191	170.0
No	K24KT-D	D24	LD	LIC	WALKER, MN	BLDFT20130719CLP	168.9
No	K24KC-D	D24	LD	CP	HILLSBORO, ND	BNPDTL20100504ANL	65.1
Yes	K24LH-D	D24	LD	CP	HORACE, ND	BNPDTL20100505ADN	25.7
No	K24KW-D	D24	LD	CP	JAMESTOWN, ND	BNPDTL20100505ALM	163.4
No	KRDK-TV	D24	DT	LIC	VALLEY CITY, ND	BLANK0000121386	61.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D23  
Mask: Full Service  
Latitude: 46 52 22.10 N (NAD83)  
Longitude: 96 47 0.60 W  
Height AMSL: 344.5 m  
HAAT: 69.2 m  
Peak ERP: 0.700 kW  
Antenna: Omnidirectional  
Elev Pattn: Generic  
Elec Tilt: 1.00

49.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.700 kW	72.7 m	25.3 km
45.0	0.700	68.8	24.8
90.0	0.700	65.9	24.4
135.0	0.700	65.5	24.3

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## Exhibit E-2 - TVStudy Interference Study

180.0	0.700	70.4	25.0
225.0	0.700	68.2	24.7
270.0	0.700	70.1	25.0
315.0	0.700	72.3	25.3

Proposal 24.66 dBu contour does not cross Canadian border  
Distance to Canadian border: 236.5 km

Distance to Mexican border: 1870.4 km

Conditions at FCC monitoring station: Grand Island NE  
Bearing: 191.8 degrees Distance: 674.3 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 225.3 degrees Distance: 1009.3 km

Study cell size: 0.50 km  
Profile point spacing: 0.10 km

Maximum new IX to full-service and Class A: 0.50%  
Maximum new IX to LPTV: 2.00%

### ----- Interference to BNPDTL20100505ADN CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K24LH-D	D24	LD	CP	HORACE, ND	BNPDTL20100505ADN	
Undesireds:	KCPM-LD	D23	LD	LIC	FARGO, ND	BLTVL20020207AAQ	25.7 km
	KRDK-TV	D24	DT	LIC	VALLEY CITY, ND	BLANK0000121386	80.0
	K25LY-D	D25	LD	CP	FARGO, ND	BNPDTL20100422ACT	21.9
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	2141.8	154,388	2141.8	154,388	69.9 667	69.9 667	0.00 0.00
Undesired				Total IX	Unique IX, before	Unique IX, after	
KCPM-LD D23 LD LIC		1.8		3,097		0.0 0	
KRDK-TV D24 DT LIC		2072.0		153,721	1958.4 149,634	1956.7 146,537	
K25LY-D D25 LD CP		113.5		4,087	0.0 0	0.0 0	

### ----- Interference to proposal scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KCPM-LD	D23	LD	LIC	FARGO, ND	BLTVL20020207AAQ	
Undesireds:	K24LH-D	D24	LD	CP	HORACE, ND	BNPDTL20100505ADN	25.7 km
	Service area		Terrain-limited		IX-free	Percent IX	
	1932.3	189,613	1932.3	189,613	1909.0 189,210	1.21 0.21	
Undesired				Total IX	Unique IX	Prct Unique IX	
K24LH-D D24 LD CP		23.4		403	23.4 403	1.21 0.21	

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