

***APPLICATION FOR MODIFICATION OF  
CONSTRUCTION PERMIT***

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**K29KL – INDEPENDENCE, KANSAS  
FACILITY ID: 190289**

**DIGITAL NETWORKS—MIDWEST, LLC**

**MARCH 2020**

## **APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT**

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Midwest, LLC** ("Midwest"), licensee of low power television station K50JG at Independence, Kansas, and permittee of Digital Companion Channel facility K29KL-D at Independence, Kansas, and are in support of their application for modification of construction permit.<sup>1</sup> This application proposes a relocation of the existing construction permit for K29KL-D, the digital companion channel. The construction permit for that facility has been assigned LMS File No. 0000030455.

The existing construction permit for K29KL-D authorizes operation on television channel 29 with a maximum effective radiated power of 7.50 kW at a center of radiation of 271.4 meters above mean sea level, 16 meters above ground level, utilizing a composite directional antenna. The proposed facility would also operate on channel 29, but with a maximum effective radiated power of 2.0 kW at a center of radiation of 309.0 meters above mean sea level, 50.0 meters above ground level, utilizing a composite directional antenna system. The proposed antenna array consists of two Kathrein-Scala PR-TV antennas utilizing equal power division. One antenna is to be oriented at 95 degrees true, with the other oriented at 275 degrees true.

The proposed technical parameters represent a minor change to the authorized digital companion channel facility. Exhibit E-1 illustrates that the proposed 51 dBu F(50,90) contour overlaps both the authorized 51 dBu F(50,90) contour and the licensed 74 dBu F(50,50) contour.

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<sup>1</sup> The Facility ID for K50JG at Independence, Kansas is 1016. The Facility ID for K29KL at Independence, Kansas is 190289.

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Additionally, the proposed transmitter site is located within 30 miles of both the licensed and authorized transmitter sites.

Exhibit E-2 is the study output from *TVStudy* for the proposed facility. This study demonstrates that there are no outgoing interference check failures to any proposed or authorized facilities. This study was performed at a cell size resolution of 1.0 km, and a profile spacing increment of 1.0 km.

The proposed facility would not constitute a significant environmental impact, and is exempt from environmental processing. The proposed antenna array would be mounted to an existing tower that is registered with the Commission. The addition of the antenna system to this tower would not increase the already existing environmental impact present from the structure.

In addition, the proposed facility would not result in human exposure at ground level to radiofrequency radiation in excess of the Commission's safety standards. Using the equations in Supplement A of *OET Bulletin 65*, the calculated worst-case power density at ground level assuming a downward radiation relative field of 0.3 is  $2.60 \mu\text{W}/\text{cm}^2$ . This value is substantially below the upper limit of the uncontrolled environment condition. Midwest certifies it will coordinate with all other users of the site to ensure that workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Coordination activities will include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

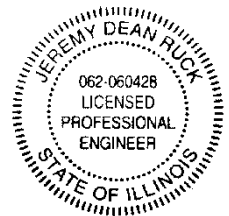
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The proposed facility complies with the provisions of Section 74.709 of the Commission's Rules. No land mobile protection issues have been identified based on the tables in that section of the rules, or on the output of *TVStudy*. The proposed facility also complies with Sections 74.793(e)-(h) of the Commission's Rules,

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  
March 24, 2020

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3.24.2020

**K29KL-D.X**

PROPOSED  
Latitude: 37-07-45.80 N  
Longitude: 095-07-14.60 W  
ERP: 2.00 kW  
Channel: 29  
AMSL Height: 309.0 m  
Horiz. Pattern: Directional  
Prop Model: FCC Contour

**K29KL-D.C**

0000030455  
Latitude: 37-06-20 N  
Longitude: 095-05-27 W  
ERP: 7.50 kW  
Channel: 29  
AMSL Height: 271.4 m  
Horiz. Pattern: Directional  
Prop Model: FCC Contour

**K50JG**

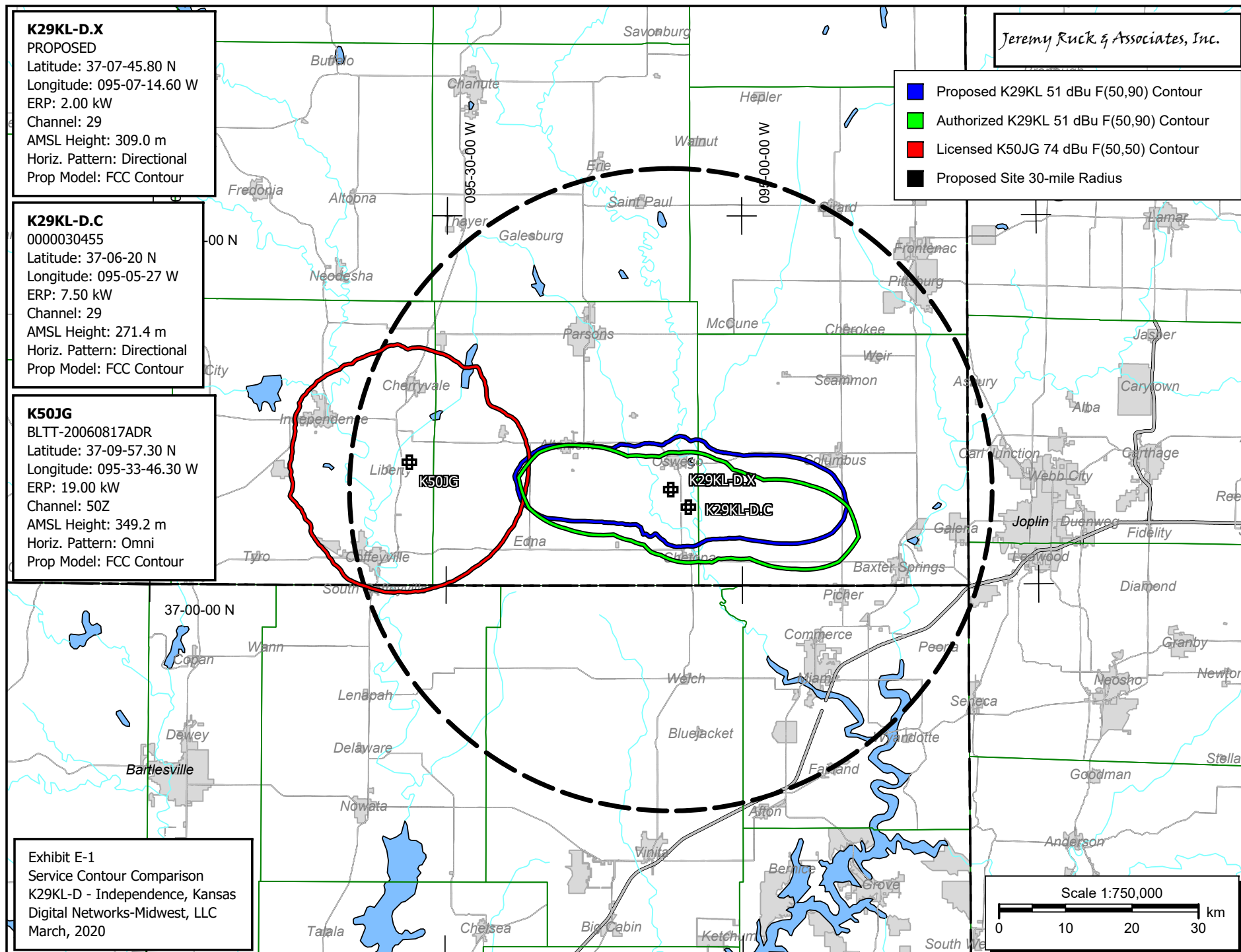
BLTT-20060817ADR  
Latitude: 37-09-57.30 N  
Longitude: 095-33-46.30 W  
ERP: 19.00 kW  
Channel: 50Z  
AMSL Height: 349.2 m  
Horiz. Pattern: Omni  
Prop Model: FCC Contour

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- Proposed K29KL 51 dBu F(50,90) Contour
- Authorized K29KL 51 dBu F(50,90) Contour
- Licensed K50JG 74 dBu F(50,50) Contour
- Proposed Site 30-mile Radius

**Exhibit E-1**

Service Contour Comparison  
K29KL-D - Independence, Kansas  
Digital Networks-Midwest, LLC  
March, 2020



## Exhibit E-2 - TVStudy Interference Study

tvstudy v2.2.5 (4uoc83)

Database: 127.0.0.1, Study: K29KL DCC Ch 29 ASRN 1063524 2kW ERP 309.0 m AMSL PR-TV x2 1@95 1@275, Model: Longley-Rice  
Start: 2020.03.24 16:20:13

Study created: 2020.03.24 16:20:13

Study build station data: LMS TV 2020-03-21

Proposal: K29KL-D D29 LD APP INDEPENDENCE, KS  
File number: BLANK0000030455  
Facility ID: 190289  
Station data: User record  
Record ID: 126  
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	K28NT-D	D28z	LD	LIC	BENTONVILLE & ROGERS, AR	BLANK0000059138	110.2 km
No	KCMN-LD	D28	LD	CP	TOPEKA, KS	BLANK0000051647	216.4
No	KWKD-LP	D28	LD	CP	WICHITA, KS	BDFCDTL20101025AAU	224.8
No	KJPK-LP	D28+	LD	CP	JOPLIN, MO	BLANK0000054317	65.4
No	KOZL-TV	D28	DT	LIC	SPRINGFIELD, MO	BLCDT20070213ABB	192.6
No	KTPX-TV	D28	DT	LIC	OKMULGEE, OK	BLCDT20020510AAQ	169.7
No	K28NV-D	D28	LD	LIC	PONCA CITY, OK	BLANK0000055256	176.1
No	K29NT-D	D29	LD	CP	FORT SMITH, AR	BLANK0000071941	197.0
No	KZTE-LD	D29	LD	CP	FULTON, AR	BLANK0000054183	423.0
No	KWMO-LD	D29	LD	LIC	HOT SPRINGS, AR	BLANK0000080611	350.7
No	KWOG	D29	DT	LIC	SPRINGDALE, AR	BLANK0000049027	128.1
No	KHDS-LD	D29	LD	LIC	SALINA, KS	BLANK0000059140	293.3
No	K15DD-D	D29	LD	CP	WICHITA, KS	BLANK0000053613	204.2
No	KMBC-TV	D29	DT	LIC	KANSAS CITY, MO	BLCDT20090618ACY	223.6
No	K29LK-D	D29+	LD	LIC	Springfield, MO	BLANK0000063015	220.2
No	K29LK-D	D29+	LD	CP	Springfield, MO	BLANK0000068381	216.3
No	KXVO	D29	DT	LIC	OMAHA, NE	BLANK0000078842	448.4
No	KTUZ-TV	D29	DT	LIC	SHAWNEE, OK	BLCDT20081105ACO	274.3
No	KTZT-CD	D29	DC	CP	TULSA, OK	BLANK0000036113	133.2
No	KTZT-CD	D29	DC	LIC	TULSA, OK	BLDTA20120430AEA	133.2
No	K29JY-D	D29	LD	CP	VIAN, OK	BNPDTL20100504ALZ	187.2
No	K29HZ-D	D29	LD	LIC	WOODWARD, ETC., OK	BLDTT20101007ABM	375.0
No	KKAF-LD	D30	LD	LIC	FAYETTEVILLE, AR	BLANK0000062918	137.3
No	K30AL-D	D30	LD	LIC	IOLA, KS	BLDTT20090226ABD	86.7
No	KSMI-LD	D30	LD	LIC	WICHITA, KS	BLANK0000011260	224.8
No	KSMI-LD	D30	LD	CP	WICHITA, KS	BDISDTL20111219ADQ	224.8
No	KCLJ-LP	D30	LD	CP	JOPLIN/CARTHAGE, MO	BDFCDTA20100813CAI	65.4
No	KCLJ-LP	N30z	TX	LIC	JOPLIN/CARTHAGE, MO	BLTTA20050506ACG	65.4
No	KPXE-TV	D30	DT	LIC	KANSAS CITY, MO	BLANK0000001701	217.0
No	K30OK-D	D30	LD	LIC	TULSA, OK	BLANK0000080580	133.6
No	KOTV-DT	D30	LD	LIC	TULSA, OK	BLCDT20120817ACF	71.0

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D29  
Mask: Full Service  
Latitude: 37 7 45.80 N (NAD83)  
Longitude: 95 7 14.60 W  
Height AMSL: 309.0 m  
HAAT: 52.7 m  
Peak ERP: 2.00 kW  
Antenna: SCA PR-TV x2 Array 1@95 1@275 0.0 deg  
Elev Pattern: Generic

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## Exhibit E-2 - TVStudy Interference Study

50.2 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.017 kW	45.4 m	7.8 km
45.0	0.019	57.4	9.1
90.0	1.78	56.7	26.9
135.0	0.031	65.6	10.9
180.0	0.017	56.4	8.8
225.0	0.019	42.6	7.7
270.0	1.78	43.6	24.0
315.0	0.031	53.7	9.9

Distance to Canadian border: 1158.4 km

Distance to Mexican border: 1003.5 km

Conditions at FCC monitoring station: Grand Island NE  
Bearing: 326.9 degrees Distance: 509.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 293.8 degrees Distance: 937.5 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%

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Interference to proposal scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K29KL-D	D29	LD	APP	INDEPENDENCE, KS	BLANK0000030455	
Undesireds:	K29LK-D	D29+	LD	LIC	Springfield, MO	BLANK0000063015	220.2 km
	KTZT-CD	D29	DC	CP	TULSA, OK	BLANK0000036113	133.2
	KCLJ-LP	D30	LD	CP	JOPLIN/CARTHAGE, MO	BDFCDTA20100813CAI	65.4
	Service area			Terrain-limited		IX-free	Percent IX
	656.2	4,019		656.2	4,019	656.2	0.00 0.00

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