

APPLICATION FOR CONSTRUCTION PERMIT

K26PI-D – SALINA, KANSAS
FACILITY ID: 68040
CHANNEL 26 – 2.0 kW ERP DA

DIGITAL NETWORKS—MIDWEST, LLC

AUGUST 2021

APPLICATION FOR CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Midwest, LLC** ("Midwest"), licensee of digital low power television station K26PI-D at Salina, Kansas, and are in support of their application for construction permit to modify that facility.¹ This application seeks to modify the current license for the facility, which is assigned LMS File No. 0000121235.

K26PI is licensed to operate on television channel 26 with a maximum effective radiated power of 5.78 kW at a center of radiation of 434.6 meters above mean sea level, 30.5 meters above ground level, utilizing a composite directional antenna. The proposed facility would operate on television channel 26 with a maximum effective radiated power of 2.0 kW. The proposed center of radiation is 450.4 meters above mean sea level, or 30 meters above ground level. The tower to be utilized is assigned 1266046 as its Antenna Structure Registration Number. A composite directional antenna consisting of two Kathrein-Scala PR-TV antennas is proposed for use. One element is to be oriented at 90 degrees true, with the other at 280 degrees true. Equal power division will be employed.

The map in Exhibit E-1 is a comparison between the licensed and proposed technical parameters, and illustrates the 51 dBu F(50,90) service contour for each set of parameters. This application proposes a relocation of the transmitter; however, the relocation distance is less than 30 miles as indicated on the map. This map also demonstrates that there is overlap between the two contours. The proposed change to the license is a minor change to the facility.

¹ The Facility ID for K16PI-D at Salina, Kansas is 68040.

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Exhibit E-2 is the output from *TVStudy* for the proposed technical parameters. This study demonstrates that the proposed technical parameters would not fail interference checks to other relevant proposed and authorized facilities. This study was completed using a cell size of 1.0 km at a profile spacing of 1.0 kilometer.

The proposed facility is not located within the West Virginia quiet zone and is located at a significant distance from both the Table Mountain receiving zone, and the Commission's Grand Island, Nebraska monitoring. Additionally, 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 already existing environmental impact present from the tower.

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 $7.67 \mu\text{W}/\text{cm}^2$. This value is less than 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.

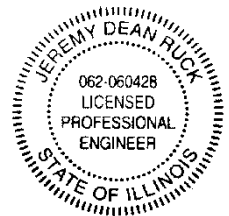
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The proposed facility complies with the provisions of Section 74.709 of the Commission's Rules. No land mobile protection issues have been identified based on the tables in that section of the rules, or on the output of *TVStudy*. The proposed facility also complies with Sections 74.793(e)-(h) and 74.793(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
August 21, 2021

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8.21.2021

K26PI-D.X

0000121235

Latitude: 38-40-34.90 N

Longitude: 096-56-14.40 W

ERP: 2.00 kW

Channel: 26

Frequency: 545.0 MHz

AMSL Height: 450.4 m

Horiz. Pattern: Directional

Prop Model: FCC Contour

K26PI-D

0000121235

Latitude: 38-45-59.50 N

Longitude: 097-22-47.80 W

ERP: 5.78 kW

Channel: 26

Frequency: 545.0 MHz

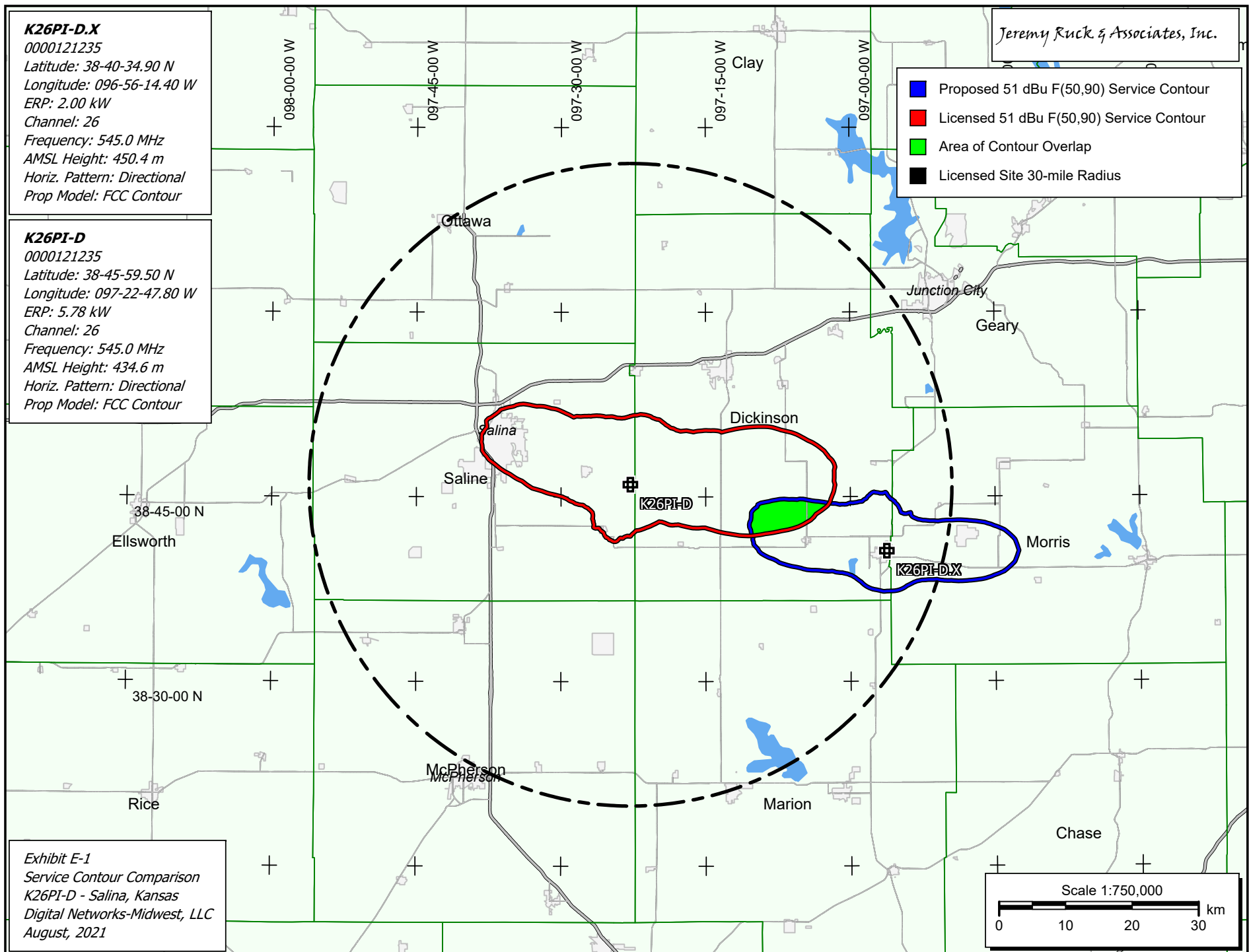
AMSL Height: 434.6 m

Horiz. Pattern: Directional

Prop Model: FCC Contour

Jeremy Ruck & Associates, Inc.

- Proposed 51 dBu F(50,90) Service Contour
- Licensed 51 dBu F(50,90) Service Contour
- Area of Contour Overlap
- Licensed Site 30-mile Radius

**Exhibit E-1**

Service Contour Comparison

K26PI-D - Salina, Kansas

Digital Networks-Midwest, LLC

August, 2021

Exhibit E-2 - TVStudy Interference Study

tvstudy v2.2.5 (4uoc83)

Database: 127.0.0.1, Study: K26PI CH26 ASRN 1266046 450.4 m AMSL 2 kW PR-TV x2 1@90 1@280, Model: Longley-Rice

Start: 2021.08.21 10:19:23

Study created: 2021.08.21 10:19:23

Study build station data: LMS TV 2021-08-20

Proposal: K26PI-D D26 LD LIC SALINA, KS

File number: BLANK0000121235

Facility ID: 68040

Station data: User record

Record ID: 363

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	K25QQ-D	D25	LD	CP	FORT RILEY, KS	BLANK0000153820	48.6 km
No	K25CV-D	D25	LD	LIC	HAYS, KS	BLDTL20130729AQ	208.8
No	KMCI-TV	D25	DT	LIC	LAWRENCE, KS	BLANK0000153576	210.8
No	KMCI-TV	D25	DT	LIC	LAWRENCE, KS	BLANK0000074650	210.8
No	K25NB-D	D25	LD	CP	SALINA, KS	BNPDTL20100930ARK	63.4
No	KXUN-LD	D26	LD	LIC	FORT SMITH, AR	BLANK0000064232	425.2
No	WROB-LD	D26	LD	LIC	TOPEKA, KS	BLDTL20140908AFA	103.2
No	KSAS-TV	D26	DT	LIC	WICHITA, KS	BLCDT20021120AAN	111.7
No	K26KH-D	D26	LD	CP	COLUMBIA, MO	BLANK0000071588	402.6
No	K26KT-D	D26	LD	CP	ELDON, MO	BLANK0000071733	392.5
No	K26KU-D	D26	LD	CP	MARSHALL, MO	BNPDTL20090825BXR	341.8
No	K26KV-D	D26	LD	CP	SEDALIA, MO	BNPDTL20090825BWL	318.7
No	KCNH-LD	D26	LD	LIC	Springfield, MO	BLANK0000135315	361.9
No	KLNE-TV	D26	DT	LIC	LEXINGTON, NE	BLANK0000123803	287.7
No	KPTM	D26	DT	LIC	OMAHA, NE	BLANK0000079038	273.0
No	KSXC-LD	D26z	LD	LIC	SOUTH SIOUX CITY, NE	BLANK0000058765	426.7
No	KLHO-LD	D26	LD	CP	OKLAHOMA CITY, OK	BLANK0000054306	370.5
No	K26PE-D	D26	LD	CP	PONCA CITY, OK	BLANK0000071808	238.1
No	KOTV-DT	D26	DT	LIC	TULSA, OK	BLANK0000116553	315.5
No	K26IS-D	D26	LD	LIC	WOODWARD, ETC., OK	BLDTT20101007ABL	312.2
No	KSNT	D27	DT	LIC	TOPEKA, KS	BLCDT20090910ABY	109.9
No	KFVT-LD	D27	LD	LIC	WICHITA, KS	BLANK0000107113	110.1
No	KWKD-LD	N28+	TX	LIC	WICHITA, KS	BLTT20050801AHP	113.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D26

Mask: Full Service

Latitude: 38 40 34.90 N (NAD83)

Longitude: 96 56 14.40 W

Height AMSL: 450.4 m

HAAT: 26.8 m

Peak ERP: 2.00 kW

Antenna: SCA PR-TV x2 Array 1@90 1@280 0.0 deg

Elev Pattern: Generic

50.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.017 kW	59.2 m	9.2 km
45.0	0.024	24.3	7.1
90.0	2.00	4.4	21.2
135.0	0.021	12.7	6.9
180.0	0.016	6.5	6.5
225.0	0.017	25.2	6.5

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Exhibit E-2 - TVStudy Interference Study

270.0	1.32	34.7	20.4
315.0	0.048	47.3	10.5

Distance to Canadian border: 1122.3 km

Distance to Mexican border: 1071.1 km

Conditions at FCC monitoring station: Grand Island NE
Bearing: 333.4 degrees Distance: 280.3 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 285.3 degrees Distance: 729.4 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%

Interference to proposal scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K26PI-D	D26	LD	LIC	SALINA, KS	BLANK0000121235	
	Service area			Terrain-limited		IX-free	Percent IX
442.0	3,714	442.0		3,714	442.0	3,714	0.00 0.00

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