

APPLICATION FOR CONSTRUCTION PERMIT

K26PL-D – ROSWELL, NEW MEXICO
FACILITY ID: 129009
CHANNEL 26 – 2.5 kW ERP DA

DIGITAL NETWORKS-SOUTHWEST, LLC

SEPTEMBER 2021

APPLICATION FOR CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Southwest, LLC** ("Southwest"), licensee of digital low power television station K26PL-D at Roswell, New Mexico, 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 has been assigned LMS File No. 0000144803.

K26PL is licensed to operate on television channel 26 with a maximum effective radiated power of 5.11 kW at a center of radiation of 1172 meters above mean sea level, 48.8 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 2.5 kW at a center of radiation of 1145.2 meters above mean sea level, 35.1 meters above ground level, also with a composite directional antenna. The array proposed for use by K26PL-D is comprised of two Kathrein-Scala PR-TV antennas, which employ equal power division between the two. One antenna is to be oriented at 65 degrees true, with the other at 260 degrees true.

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. As this map demonstrates, there is a substantial area of overlap between the two contours. Additionally, the map also demonstrates that the proposed site is located within 30 miles of the licensed site.

¹ The Facility ID for K24OJ-D at Uvalde, Texas is 68042.

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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. As indicated by this study, the proposed facility is located in proximity to the border with Mexico, and coordination appears to be required. 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 Douglas, Arizona monitoring station.

The proposed antenna would be mounted to an existing tower that does not require registration with the Commission. The addition of the antenna to this tower would not increase the already existing environmental impact present from the tower. 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 $6.86 \mu\text{W}/\text{cm}^2$. This value is less than the upper limit of the uncontrolled environment condition. Southwest 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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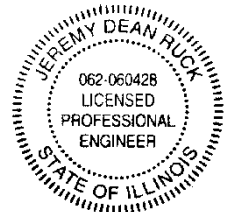
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The proposed facility complies with the provisions of Section 74.709 of the Commission's Rules. No land mobile protection issues have been identified based on the tables in that section of the rules, or on the output of *TVStudy*. The proposed facility 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
September 15, 2021

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K26PL-D

0000121621

Latitude: 32-46-56 N

Longitude: 104-12-32 W

ERP: 5.11 kW

Channel: 26

Frequency: 545.0 MHz

AMSL Height: 1172.0 m

Horiz. Pattern: Directional

Prop Model: FCC Contour

K26PL-D.X

PROPOSED

Latitude: 32-48-59.80 N

Longitude: 103-58-31.40 W

ERP: 2.50 kW

Channel: 26Z

Frequency: 545.0 MHz

AMSL Height: 1145.2 m

Horiz. Pattern: Directional

Prop Model: FCC Contour

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

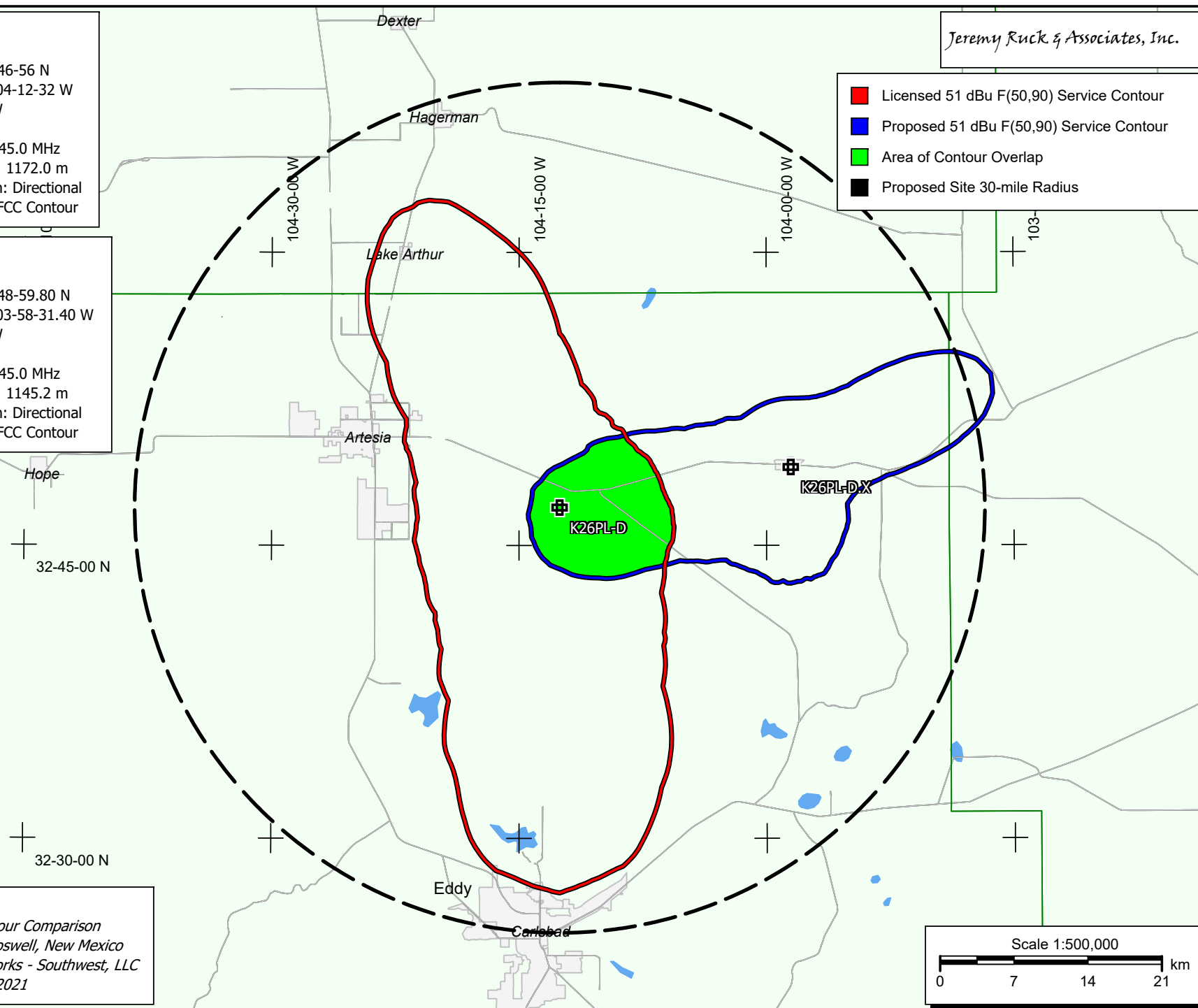
Exhibit E-1*Service Contour Comparison**K26PL-D - Roswell, New Mexico**Digital Networks - Southwest, LLC**September, 2021*

Exhibit E-2 - TVStudy Interference Study

tvstudy v2.2.5 (4uoc83)

Database: 127.0.0.1, Study: K26PL CH25 ATC311484 1145.2 m AMSL 2.5 kW PR-TV x2 1@65 1@260, Model: Longley-Rice

Start: 2021.09.15 08:49:31

Study created: 2021.09.15 08:49:31

Study build station data: LMS TV 2021-09-15

Proposal: K26PL-D D26 LD LIC Roswell, NM
File number: BLANK0000121621
Facility ID: 129009
Station data: User record
Record ID: 382
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KVBA-LP	N19+	TX	LIC	ALAMOGORDO, NM	BLTTL20070720AAD	177.1 km
Yes	KTEL-TV	D25	DT	LIC	CARLSBAD, NM	BLANK0000151164	46.7
No	KINT-TV	D25	DT	LIC	EL PASO, TX	BLCDT20061117ABX	261.5
No	KTTZ-TV	D25	DT	LIC	LUBBOCK, TX	BLANK0000063358	211.7
No	KOB	D26	DT	LIC	ALBUQUERQUE, NM	BLCDT20051003BQP	350.5
No	KZBZ-CD	D26z	DC	LIC	CLOVIS, NM	BLANK0000001641	193.8
No	K26MR-D	D26	LD	CP	HATCH, NM	BNPDTL20100513AEK	299.4
No	KTDO	D26	DT	LIC	LAS CRUCES, NM	BLANK0000072065	261.0
No	K26MV-D	D26	LD	LIC	SOLDIER CANYON, NM	BLANK0000019173	172.4
No	K26OJ-D	D26	LD	LIC	TUCUMCARI, NM	BLANK0000156876	259.1
No	KTES-LD	D26	LD	LIC	ABILENE, TX	BLANK0000143282	364.9
No	NEW	D26	LD	CP	LUBBOCK, TX	BNPDTL20090825ARG	212.6
No	KMID	D26	DT	LIC	MIDLAND, TX	BLCDT20110218AAS	177.2
No	KJBA-LD	D26	LD	CP	SAN ANGELO, TX	BDISDTL20101007ABJ	360.3
No	K26JR-D	D26	LD	LIC	TURKEY, TX	BLDTT20101115FOD	317.5
No	K27HP-D	D27	LD	LIC	ALAMOGORDO, NM	BLDTT20091211AEQ	178.7
No	K27NL-D	D27	LD	LIC	CLOVIS, NM	BLANK0000086777	193.8
No	K27GL-D	D27	LD	CP	HOBBS, NM	BLANK0000060815	82.8
No	K27GL-D	D27	LD	LIC	HOBBS, NM	BLDTT20121128BPR	80.2
No	KRPV-DT	D27	DT	LIC	ROSWELL, NM	BLCDT20090211ABQ	74.5
No	KAMC	D27	DT	CP	LUBBOCK, TX	BLANK0000052586	211.2
No	KAMC	D27	DT	LIC	LUBBOCK, TX	BLCDT20080227ABN	211.2

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: 32 48 59.80 N (NAD83)
Longitude: 103 58 31.40 W
Height AMSL: 1145.2 m
HAAT: 28.8 m
Peak ERP: 2.50 kW
Antenna: SCA PR-TV x2 Array 1@65 1@260 0.0 deg
Elev Pattern: Generic

50.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.022 kW	-5.8 m	6.9 km
45.0	0.513	-37.1	15.1
90.0	0.209	-5.7	12.0
135.0	0.020	43.4	8.1

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Exhibit E-2 - TVStudy Interference Study

180.0	0.022	88.0	11.6
225.0	0.052	75.1	13.3
270.0	1.66	42.5	23.6
315.0	0.024	29.6	7.1

Distance to Canadian border: 1798.8 km

**Proposal is within coordination distance of Mexican border
Distance to Mexican border: 246.2 km

Conditions at FCC monitoring station: Douglas AZ
Bearing: 256.2 degrees Distance: 553.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 352.5 degrees Distance: 819.2 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 BLANK0000151164 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KTEL-TV	D25	DT	LIC	CARLSBAD, NM	BLANK0000151164	
Undesireds:	K26PL-D	D26	LD	LIC	Roswell, NM	BLANK0000121621	46.7 km
	KINT-TV	D25	DT	LIC	EL PASO, TX	BLCDT20061117ABX	227.5
	KTTZ-TV	D25	DT	LIC	LUBBOCK, TX	BLANK0000063358	249.1

	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
10771.2	52,814	10596.0	52,812	10465.2	52,767	10463.2	52,767
							0.02 0.00

Undesired				Total IX	Unique IX, before	Unique IX, after	
K26PL-D D26 LD LIC		2.0		0		2.0	0
KINT-TV D25 DT LIC		32.1		0	9.0	9.0	0
KTTZ-TV D25 DT LIC		121.8		45	98.7	98.7	45

----- Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K26PL-D	D26	LD	LIC	Roswell, NM	BLANK0000121621	
Undesireds:	KMID	D26	DT	LIC	MIDLAND, TX	BLCDT20110218AAS	177.2 km
	K27GL-D	D27	LD	CP	HOBBS, NM	BLANK0000060815	82.8

	Service area		Terrain-limited		IX-free	Percent IX	
598.0	154	598.0	154	591.0	154	1.17	0.00

Undesired				Total IX	Unique IX	Prcnt Unique IX	
KMID D26 DT LIC		7.0		0	7.0	1.17	0.00

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