

# ***APPLICATION FOR CONSTRUCTION PERMIT***

**K24OJ-D – UVALDE, TEXAS  
FACILITY ID: 68042  
CHANNEL 24 – 7.5 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 K24OJ-D at Uvalde, Texas, and are in support of their application for construction permit to modify that facility.<sup>1</sup> This application seeks to modify the current license for the facility, which is assigned LMS File No. 0000144803.

K24OJ is licensed to operate on television channel 24 with a maximum effective radiated power of 4.28 kW at a center of radiation of 519.4 meters above mean sea level, 30.5 meters above ground level, utilizing a composite directional antenna. The proposed facility would operate on television channel 24 with a maximum effective radiated power of 7.5 kW at a center of radiation of 579.3 meters above mean sea level, 30 meters above ground level, also with a composite directional antenna. The antenna array proposed for use by K24OJ-D is comprised of two Kathrein-Scala PR-TV antennas, which employ equal power division between the two. Both antennas are to be oriented at 50 degrees true in a stack arrangement.

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.

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<sup>1</sup> 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 Mexican, although, the proposed modification moves the facility further from the border. 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 Kingsville, Texas 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  $28.8 \mu\text{W}/\text{cm}^2$ . 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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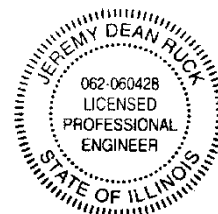
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The proposed facility complies with the provisions of Section 74.709 of the Commission's Rules. No land mobile protection issues have been identified based on the tables in that section of the rules, or on the output of *TVStudy*. The proposed facility 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 13, 2021

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**K240J-D**

0000144803

Latitude: 29-31-55.30 N

Longitude: 099-44-40.10 W

ERP: 4.28 kW

Channel: 24

Frequency: 533.0 MHz

AMSL Height: 519.4 m

Horiz. Pattern: Directional

Prop Model: FCC Contour

**K240J-D.X**

PROPOSED

Latitude: 29-39-23.80 N

Longitude: 099-30-32.90 W

ERP: 7.00 kW

Channel: 24





Frequency: 533.0 MHz

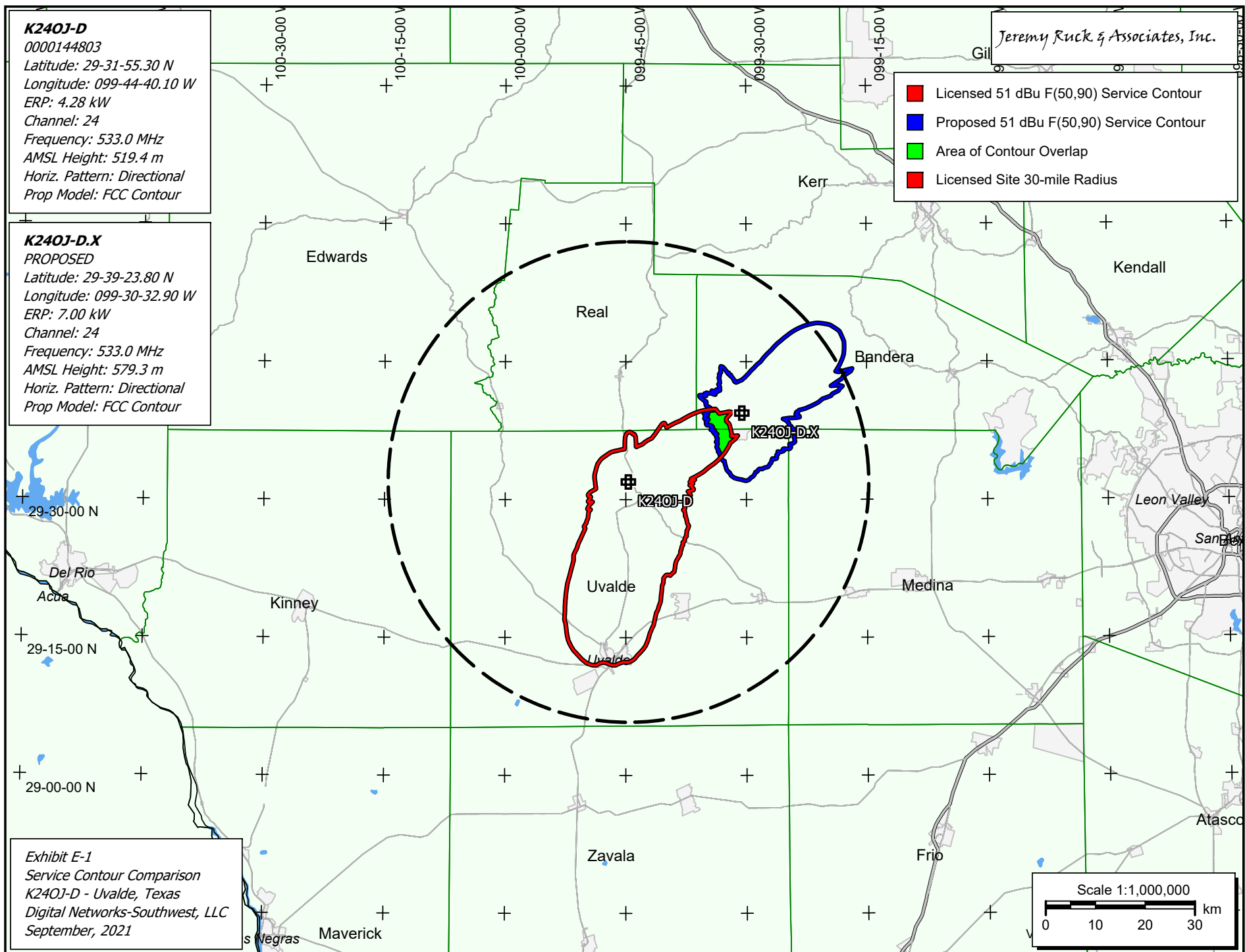
AMSL Height: 579.3 m

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
-  Licensed Site 30-mile Radius



## Exhibit E-2 - TVStudy Interference Study

tvstudy v2.2.5 (4uoc83)

Database: 127.0.0.1, Study: K240J CH24 ATC 309792 579.3 m AMSL 7.5 kW PR-TV x2 2@50, Model: Longley-Rice  
Start: 2021.09.14 14:26:24

Study created: 2021.09.14 14:26:24

Study build station data: LMS TV 2021-09-14

Proposal: K240J-D D24 LD LIC UVALDE, TX  
File number: BLANK0000144803  
Facility ID: 68042  
Station data: User record  
Record ID: 381  
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	DK17GL	N17+	TX	APP	UVALDE, TX	BLTTL20060331AIK	49.7 km
No	KRTX-LP	N20-	TX	LIC	SAN ANTONIO, TX	BLTT19981014JC	91.9
No	KNVA	D23	DT	LIC	AUSTIN, TX	BLANK0000121388	180.6
No	K23MP-D	D23	LD	CP	JUNCTION, TX	BNPDTL20100406ABQ	92.3
No	KGSA-LD	D23	LD	LIC	SAN ANTONIO, TX	BLANK0000008476	100.4
No	KVEO-TV	D24	DT	LIC	BROWNSVILLE, TX	BLCDT20050630AGL	427.9
No	K24NW-D	D24	LD	CP	COLLEGE STATION, TX	BLANK0000072100	323.1
No	KCCX-LD	D24-	LD	LIC	CORPUS CHRISTI, TX	BLANK0000099489	288.5
No	KVAW	D24	DT	CP	EAGLE PASS, TX	BPCDT20080402AAG	139.7
No	KXAS-TV	D24	DT	LIC	FORT WORTH, TX	BLANK0000054717	405.4
No	KETH-TV	D24	DT	LIC	HOUSTON, TX	BLTTL20101019ABX	386.5
No	KEOO-LD	D24	LD	CP	MIDLAND, TX	BLANK0000074386	347.7
No	KZSA-LP	D24+	LD	CP	SAN ANGELO, TX	BLANK0000054612	228.1
Yes	KWEX-DT	D24	DT	LIC	SAN ANTONIO, TX	BLANK0000074958	127.7
No	KTXU-LD	D24	LD	LIC	WEST LAKE HILLS, TX	BLANK0000152021	182.9
No	K25OB-D	D25	DC	LIC	SAN ANTONIO, TX	BLANK0000145156	127.7
No	KSAALD	N28+	TX	LIC	SAN ANTONIO, TX	BLTTL20020122AAM	99.9
No	XHRDC	D23	DT	LIC	NUEVA ROSITA, CI	BLANKBPFS20160304ABK	250.8
No	LICITACIOND23		DT	LIC	PIEDRAS NEGRAS, CI	BLANKBPFSXXXX0014XXX	147.7
No	XHLNA	D23	DT	LIC	NUEVO LAREDO, TA	BLANKBPFS20160318AAN	245.7
No	XHHC	D24	DT	LIC	MONCLOVA, CI	BLANKBPFS20111004AAQ	362.9
No	XHNSA	D24	DT	LIC	SABINAS HIDALGO, NL	BLANKBPFS20160311ABB	355.9
No	XHHE	D25	DT	LIC	CIUDAD ACUNA, CI	BLANKBPFS20110927ACL	143.5
No	XHBR	D25	DT	LIC	NUEVO LAREDO, TA	BLANKBPFS20080923AAT	245.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D24  
Mask: Full Service  
Latitude: 29 39 23.80 N (NAD83)  
Longitude: 99 30 32.90 W  
Height AMSL: 579.3 m  
HAAT: 61.7 m  
Peak ERP: 7.50 kW  
Antenna: SCA PR-TV x2 Array 2@50 0.0 deg  
Elev Pattern: Generic

49.8 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.026 kW	-14.8 m	7.3 km
45.0	6.66	-9.0	26.9
90.0	0.061	56.3	12.2

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## Exhibit E-2 - TVStudy Interference Study

135.0	0.017	102.7	12.0
180.0	0.012	182.9	14.7
225.0	0.005	79.0	7.7
270.0	0.011	61.4	8.4
315.0	0.017	34.8	7.0

Distance to Canadian border: 2003.3 km

\*\*Proposal is within coordination distance of Mexican border  
Distance to Mexican border: 128.7 km

Conditions at FCC monitoring station: Kingsville TX  
Bearing: 146.8 degrees Distance: 292.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 337.5 degrees Distance: 1273.5 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 BLANK0000074958 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KWEX-DT	D24	DT	LIC	SAN ANTONIO, TX	BLANK0000074958	
Undesireds:	K240J-D	D24	LD	LIC	UVALDE, TX	BLANK0000144803	127.7 km
	KNVA	D23	DT	LIC	AUSTIN, TX	BLANK0000121388	125.1
	KVEO-TV	D24	DT	LIC	BROWNSVILLE, TX	BLCDT20050630AGL	355.3
	KXAS-TV	D24	DT	LIC	FORT WORTH, TX	BLANK0000054717	388.1
	KETH-TV	D24	DT	LIC	HOUSTON, TX	BLEDT20101019ABX	268.7

	Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
30350.2	2,376,852	29848.8	2,370,828	29086.4	2,333,024	29057.3	2,332,601	0.10	0.02

Undesired		Total IX	Unique IX, before	Unique IX, after
K240J-D D24 LD LIC	29.2	423	29.2	423
KNVA D23 DT LIC	582.0	36,456	470.7	32,312
KVEO-TV D24 DT LIC	11.9	25	9.9	18
KXAS-TV D24 DT LIC	31.1	679	3.0	0
KETH-TV D24 DT LIC	272.8	5,434	163.4	1,306

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### Interference to proposal scenario 1 5.96% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K240J-D	D24	LD	LIC	UVALDE, TX	BLANK0000144803	
Undesireds:	KWEX-DT	D24	DT	LIC	SAN ANTONIO, TX	BLANK0000074958	127.7 km

	Service area		Terrain-limited		IX-free		Percent IX
579.1	1,355	489.5	1,107	444.2	1,041	9.26	5.96

Undesired		Total IX	Unique IX	Prcnt Unique IX
KWEX-DT D24 DT LIC	45.3	66	45.3	66

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