

# *APPLICATION FOR MODIFICATION OF CONSTRUCTION*

K33OB – ROSWELL, NEW MEXICO  
FACILITY ID: 129875

DIGITAL NETWORKS–SOUTHWEST, LLC

AUGUST 2020

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JEREMY RUCK & ASSOCIATES, INC.

P.O. Box 415  
221 S. 1st Avenue  
Canton, IL 61520

Tel: 309.647.1200  
Fax: 855.332.9537  
jeremyruck.com

**8.26.2020**

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

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Southwest, LLC** ("Southwest"), permittee of digital companion channel facility K33OB at Roswell, New Mexico, and are in support of their application for modification of construction permit. The current construction permit for this facility is under LMS File No. 0000029438. This application proposes a relocation of the facility, which includes changes to related technical parameters.

The facility is authorized to operate on channel 33 with a maximum effective radiated power of 15.0 kW at a center of radiation of 1250.3 meters above mean sea level, 40 meters above ground level, utilizing a non-directional antenna. The proposed facility would also operate on channel 33, but with a maximum effective radiated power of 2 kW at a center of radiation of 1152.2 meters above mean sea level, 35.1 meters above ground, utilizing a directional antenna. The antenna proposed for use by the facility is a single Kathrein-Scala PR-TV antenna oriented at 80 degrees true.

The map in Exhibit E-1 provides a contour comparison map between the licensed, authorized, and proposed technical parameters. This map demonstrates that the proposed 51 dBu F(50,90) service contour overlaps both the licensed 74 dBu F(50,50) contour and the authorized 51 dBu F(50,90) contour. Additionally, this map also demonstrates that the proposed transmitter site is located within 30 miles of site specified for both the licensed and authorized technical parameters.

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

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 proposed 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  $5.49 \mu\text{W}/\text{cm}^2$ . This value is substantially below 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.

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

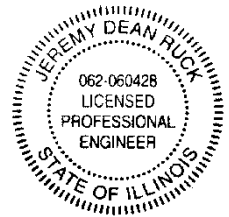
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74.793(e)-(h) and 74.793(h) of the Commission's Rules. The proposed facility is not located within the vicinity of the Table Mountain receiving zone, nor is it located within the West Virginia quiet zone area.

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 26, 2020

JEREMY RUCK & ASSOCIATES, INC.

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**K33OB.X**

0000029438  
Latitude: 33-23-03.30 N  
Longitude: 104-35-15.90 W  
ERP: 2.00 kW  
Channel: 33  
Frequency: 587.0 MHz  
AMSL Height: 1152.2 m  
Horiz. Pattern: Directional  
Prop Model: FCC Contour

**K33OB-D/K50IA.C**

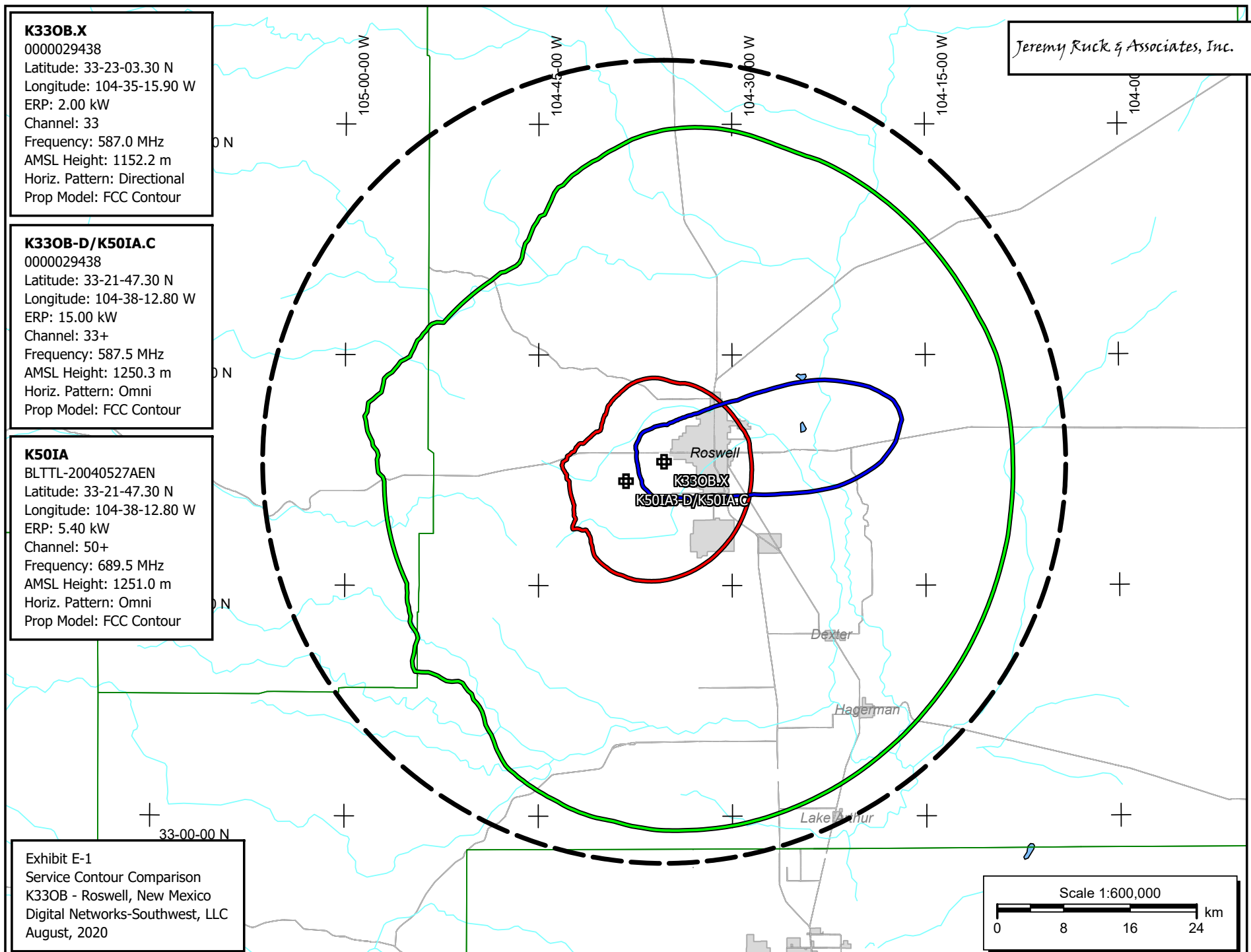
0000029438  
Latitude: 33-21-47.30 N  
Longitude: 104-38-12.80 W  
ERP: 15.00 kW  
Channel: 33+  
Frequency: 587.5 MHz  
AMSL Height: 1250.3 m  
Horiz. Pattern: Omni  
Prop Model: FCC Contour

**K50IA**

BLTTL-20040527AEN  
Latitude: 33-21-47.30 N  
Longitude: 104-38-12.80 W  
ERP: 5.40 kW  
Channel: 50+  
Frequency: 689.5 MHz  
AMSL Height: 1251.0 m  
Horiz. Pattern: Omni  
Prop Model: FCC Contour

Exhibit E-1  
Service Contour Comparison  
K33OB - Roswell, New Mexico  
Digital Networks-Southwest, LLC  
August, 2020

Jeremy Ruck & Associates, Inc.



## Exhibit E-2 - TVStudy Interference Study

tvstudy v2.2.5 (4uoc83)

Database: 127.0.0.1, Study: K33OB CP MOD CH 33 ASRN 1230123 2 kW ERP 1152.2 m AMSL PR-TV @80, Model: Longley-Rice  
Start: 2020.08.26 12:57:40

Study created: 2020.08.26 12:57:40

Study build station data: LMS TV 2020-08-26

Proposal: K50IA D33 LD CP ROSWELL, NM  
File number: BLANK0000029438  
Facility ID: 129875  
Station data: User record  
Record ID: 199  
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	KVBA-LP	N19+	TX	LIC	ALAMOGORDO, NM	BLTTL20070720AAD	134.5 km
No	K32OE-D	D32	LD	LIC	ALAMOGORDO, NM	BLANK0000078907	135.8
No	K32KU-D	D32	LD	CP	HOBBS, NM	BNPDTL20101012AFB	155.1
No	KENW	D32	DT	LIC	PORTALES, NM	BLED20030219ADP	157.5
No	K33FK-D	D33	LD	LIC	ANGEL FIRE, NM	BLD20120509AAX	357.3
No	K33GC-D	D33	LD	LIC	CAPULIN, ETC., NM	BLD20110804AAD	374.8
No	K33NX-D	D33	LD	LIC	CARLSBAD, NM	BLANK0000062910	109.1
No	K33ME-D	D33	LD	CP	DEMING, NM	BNPDTL20100504ANB	350.0
No	K33GA-D	D33	LD	LIC	GRANTS, MILAN, NM	BLD20110510ACI	360.3
No	K33FL-D	D33	LD	LIC	LAS VEGAS, NM	BLANK0000008071	254.2
No	K33OE-D	D33	LD	LIC	PENASCO, NM	BLANK0000058635	333.5
No	K33BN-D	D33z	LD	LIC	Picuris Pueblo, NM	BLANK0000040298	333.5
No	K33BN-D	N33z	TX	LIC	Picuris Pueblo, NM	BLTT20050912AAD	346.1
No	K33PG-D	D33	LD	LIC	SOCORRO, NM	BLANK0000059488	232.5
No	K33MK-D	D33	LD	CP	TAOS, NM	BNPDTL20100730ADS	346.1
No	K33PE-D	D33	LD	LIC	TRUTH OR CONSEQUENCE, NM	BLANK0000067707	252.2
No	KCPN-LP	D33z	LD	CP	AMARILLO, TX	BLANK0000054685	334.3
No	KCPN-LP	N33z	TX	LIC	AMARILLO, TX	BLTTL20011203AAQ	334.2
No	K33LY-D	D33	LD	CP	BALMORHEA, TX	BNPDTL20100416ABI	276.5
No	KCWO-TV	D33	DT	LIC	BIG SPRING, TX	BLC20090818AAN	313.9
No	K33PX-D	D33	LD	LIC	CLARENDON, TX	BLANK0000091153	376.4
No	K33LI-D	D33	LD	CP	PLAINVIEW, TX	BNPDTL20100323AIV	276.7
No	KJTV-CD	D33	DC	LIC	WOLFFORTH, TX	BLANK0000081644	252.2
No	K34CR	D34	LD	CP	ALAMOGORDO, ETC., NM	BLANK0000059066	135.8
No	K34CR	N34	TX	LIC	ALAMOGORDO, ETC., NM	BLTT19890703IB	135.9
No	K34GU	N34+	TX	LIC	FORT SUMNER, NM	BLTT20060105AAU	123.2
No	K34KZ-D	D34	LD	LIC	HOBBS, NM	BLD20130201ACL	150.5
No	DK34GL	D34	LD	APP	SANTA ROSA, NM	BDFCD20120604ADW	174.9
No	K40BP	N40z	TX	LIC	ALAMOGORDO, NM	BLTT19880316IF	135.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D33  
Mask: Full Service  
Latitude: 33 23 3.30 N (NAD83)  
Longitude: 104 35 15.90 W  
Height AMSL: 1152.2 m  
HAAT: 11.6 m  
Peak ERP: 2.00 kW  
Antenna: SCA PR-TV 80.0 deg  
Elev Pattern: Generic

50.6 dBu contour:

Azimuth ERP HAAT Distance

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## Exhibit E-2 - TVStudy Interference Study

0.0 deg	0.005 kW	22.3 m	4.6 km
45.0	0.029	58.5	10.0
90.0	1.31	68.1	26.7
135.0	0.006	48.0	6.1
180.0	0.004	17.3	4.4
225.0	0.002	-37.0	3.9
270.0	0.001	-35.3	3.4
315.0	0.004	-49.2	4.3

Distance to Canadian border: 1735.6 km

\*\*Proposal is within coordination distance of Mexican border  
Distance to Mexican border: 248.9 km

Conditions at FCC monitoring station: Douglas AZ  
Bearing: 247.6 degrees Distance: 519.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 355.9 degrees Distance: 750.6 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

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K50IA	D33	LD	CP	ROSWELL, NM	BLANK0000029438	
	Service area			Terrain-limited		IX-free	Percent IX
356.6	48,812	345.6		48,812	345.6	48,812	0.00 0.00

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