

***COMPREHENSIVE TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT***

**FM TRANSLATOR STATION K279AB
SAN ANTONIO, TEXAS
103.7 MHz / 0.220 kW DA**

SAN ANTONIO RADIOWORKS, LLC

JUNE, 2014

APPLICATION FOR CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **San Antonio Radioworks, LLC** ("Radioworks"), licensee of FM translator station K279AB at San Antonio, Texas, and are in support of their application for construction permit to modify that facility.¹

This application proposes a relocation of the facility from the existing site at Methodist Hospital, to the Tower of the Americas. Due to this relocation of the facility, the elevation parameters associated with the antenna would change. In addition, Radioworks proposes an increase in the maximum effective radiated power. A directional antenna would continue to be employed to provide requisite contour protection to other relevant facilities.

At present, K279AB operates with a maximum effective radiated power of 81 Watts at a center of radiation of 378 meters above mean sea level utilizing a directional antenna. The proposed facility would operate with a maximum effective radiated power of 220 Watts at a center of radiation of 384 meters above mean sea level. A directional antenna, albeit with a different pattern, would continue to be utilized to provide necessary contour protection.

The proposed relocation of the facility would constitute a minor change to the existing license. Exhibit E-1 depicts the predicted 60 dBu service contours for the licensed and proposed authorizations. As this map demonstrates, the licensed and proposed 60 dBu service contours would overlap.

¹ The Facility ID for K279AB at San Antonio, Texas is 6147.

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K279AB functions as a fill-in translator, with AM station KAHL at San Antonio, Texas, being the primary station for the translator.² No change to the primary station for the facility is proposed under this application. Exhibit E-2 illustrates the proposed 60 dBu service contour along with the KAHL 2 mV/m daytime contour, and a 25 mile radius centered on the KAHL transmitter site location. As indicated, the KAHL 60 dBu contour would be wholly contained within both the KAHL 2 mV/m daytime contour, and within a twenty-five mile radius centered on the KAHL transmitter site.

The proposed facility would comply with the provisions of Section 74.1204 of the Commission's Rules. Section 74.1205 is not applicable to the proposed facility due to the channel of operation.

Exhibit E-3 is a tabular spacing study for the proposed facility. As this study demonstrates, the proposed facility would comply with the contour overlap provisions of Section 74.1204 of the Commission's Rules to all relevant facilities with the exception of K277CX at San Antonio.³ This tabular study is graphically illustrated in Exhibit E-4.

Although there would be normally prohibited contour overlap between the proposed facility and the construction permit for K277CX at Terrell Wells, no interference would exist between the two facilities. These two facilities would operate on channels second adjacent to each other. Because of this relationship, interference between the two would be predicted potentially to occur

² The Facility ID for KAHL at San Antonio, Texas is 67070.

³ The Facility ID for K277CX at Terrell Wells, Texas is 147527.

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when the field strength of one is at least 40 dB greater than the field strength of the other. Since both facilities have similar parameters, no region exists where this interference criterion would be met. As a result, K279AB would not interfere with K277CX in any populated area despite the contour overlap situation.

The proposed facility is exempt from environmental processing, as it would not constitute a substantial environmental impact. The proposed facility would utilize an existing tower that is registered with the Commission. The addition of the K279AB antenna to this structure would not increase the existing environmental impact already present.

In addition, the proposed addition of K279AB to the structure would not result in an RF exposure hazard to persons in the vicinity of the Tower. The Commission's *FM Model* software package predicts a maximum human exposure power density of $0.057 \mu\text{W}/\text{cm}^2$. This value is well within the uncontrolled environment condition of the safety standard, and in fact, categorically excludes the facility due to its magnitude.

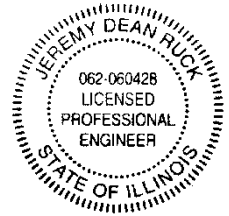
The structure is utilized by several other broadcast facilities. As a result, cooperation between the facilities occurs when maintenance or access is required. Radioworks certifies that it will coordinate with all other users of the site to ensure that workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Such coordination will include, but is not necessarily limited to, a reduction in transmitter power or cessation of operation.

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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, 2015

Jeremy D. Ruck, PE
June 2, 2014

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6.2.2014

K279AB.X

BPFT20110118ABN
Latitude: 29-25-06 N
Longitude: 098-29-01 W
ERP: 0.22 kW
Channel: 279
Frequency: 103.7 MHz
AMSL Height: 384.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

K279AB

BLFT19970804TI
Latitude: 29-30-28 N
Longitude: 098-34-20 W
ERP: 0.081 kW
Channel: 279
Frequency: 103.7 MHz
AMSL Height: 378.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

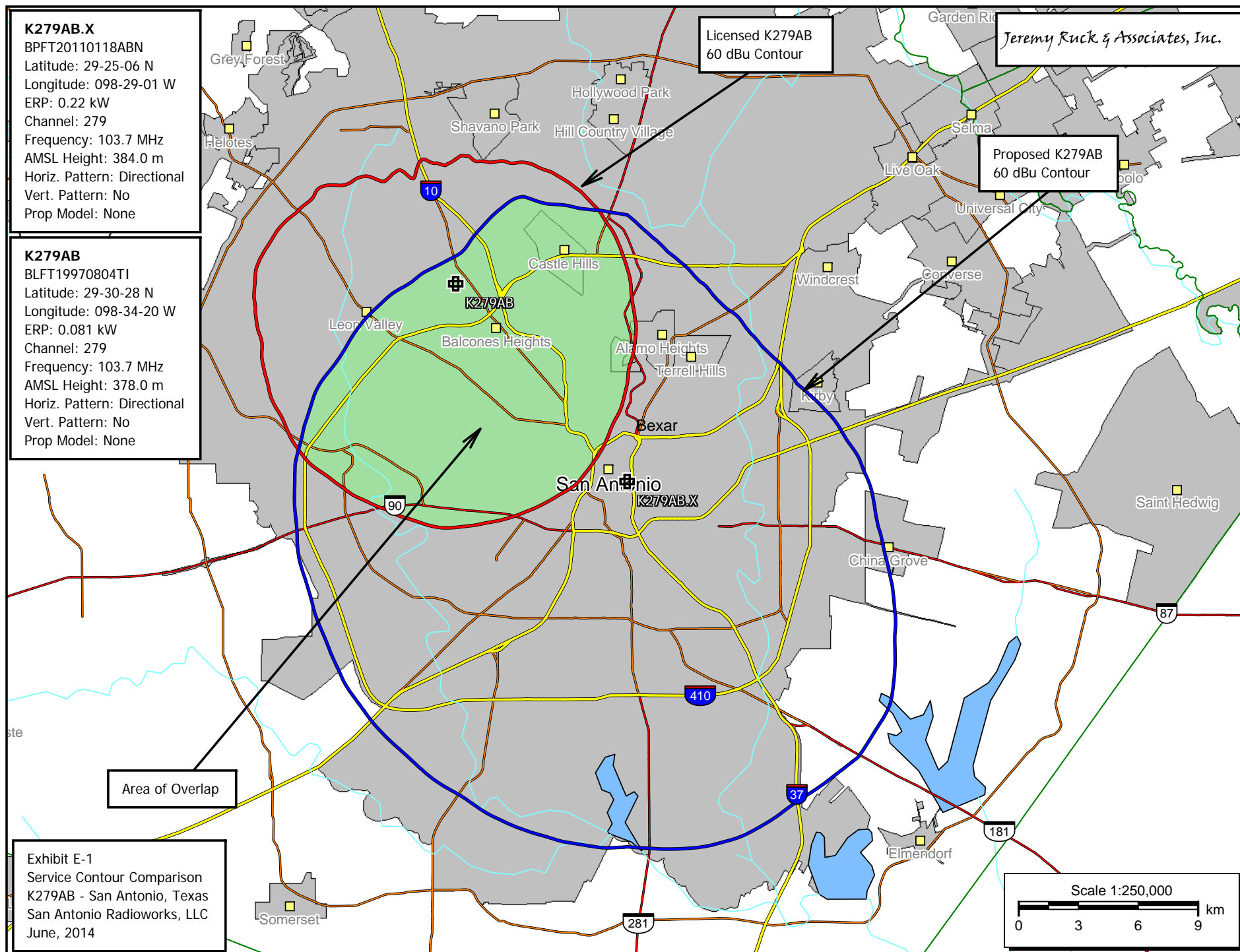
Licensed K279AB
60 dBu Contour

Jeremy Ruck & Associates, Inc.

Proposed K279AB
60 dBu Contour

Area of Overlap

Exhibit E-1
Service Contour Comparison
K279AB - San Antonio, Texas
San Antonio Radioworks, LLC
June, 2014



BPFT20110118ABN
Latitude: 29-25-06 N
Longitude: 098-29-01 W
ERP: 0.22 kW
Channel: 279
Frequency: 103.7 MHz
AMSL Height: 384.0 m
Elevation: 200.495 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

Proposed K279AB
60 dBu Contour

Jeremy Ruck & Associates, Inc.

KAHL 2 mV/m
Daytime Contour

Exhibit E-2
Service Contour Comparison
K279AB - San Antonio, Texas
San Antonio Radioworks, LLC
June, 2014

KAHL 25 mile
Site Radius

Scale 1:750,000

Jeremy Ruck & Associates, Inc.
Consulting Engineers - Canton, Illinois

Exhibit E-3 - Tabular Interference Study
K279AB - San Antonio, Texas
CH# 279D - 103.7 MHz, Pwr= 0.22 kW DA, HAAT= 177.4 M, COR= 384 M
Average Protected F(50-50)= 16.91 km
Standard Directional

REFERENCE
29 25 06.0 N.
98 29 01.0 W.

DISPLAY DATES
DATA 05-30-14
SEARCH 06-02-14

CH CITY	CALL	TYPE ANT STATE	AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
279D San Antonio	K279AB	LIC DV_ TX	319.2 139.2	13.13 BLFT19970804TI	29 30 28.0 98 34 20.0	0.081 119	37.0 378	11.1 San Antonio Radioworks, LI	-38.2*	-50.9
279D San Antonio	K279AB	CP DC_ TX	319.2 139.2	13.13 BPFT20110118ABN	29 30 28.0 98 34 20.0	0.250 120	37.0 378	11.1 San Antonio Radioworks, LI	-38.2*	-50.9
278C0 San Marcos	KBPA	LIC _CX TX	39.7 220.0	90.79 BMLH20110913ABR	30 02 42.0 97 52 50.0	100.000 383	115.1 608	77.1 Emmi s Austin Radio Broadca	-33.2*	0.0
277D Terrell Wells	K277CX	CP DC_ TX	0.0 0.0	0.00 BMPFT20140414AAK	29 25 06.0 98 29 01.0	0.185 77	0.7 384	12.8 San Antonio Radioworks, LI	-14.1*	-13.6*
279C1 Refugio	KXAI	LIC _CX TX	146.2 326.7	184.57 BMLED20130417AAP	28 02 07.0 97 26 11.0	100.000 290	170.6 302	71.2 Educational Media Foundati	-4.1	56.5
279D Hondo	K279CK	CP _C_ TX	265.8 85.4	63.60 BNPFT20131017CFV	29 22 28.0 99 08 18.0	0.125 77	34.1 354	10.1 Gwendolynn Tel lez	12.8	0.0
225C1 San Antonio	KROM	LIC NCN TX	126.9 307.0	26.57 BLH19970530KA	29 16 29.0 98 15 52.0	45.000 412	80.2 570	52.5 Tichenor License Corporati	22.0R	4.6M
281C1 Pearsall	KSAH-FM	LIC _CX TX	199.3 19.2	82.10 BLH20020712AAC	28 43 16.0 98 45 43.0	100.000 299	10.0 430	71.8 L&I Licensee, LIc	53.9	9.2
281D Pearsall	KSAH-FM1	LIC DC_ TX	197.2 17.1	58.44 BLFTB20060327AJE	28 54 57.4 98 39 39.1	20.000 467	4.3 467	47.1 L&I Licensee, LIc	36.0	10.3
279A Mountain Home	KAXA	LIC NCX TX	314.3 133.9	121.00 BLH20120621ACK	30 10 34.0 99 23 02.0	6.000 57	92.0 689	30.7 Radi odog Media	15.2	39.7
280D New Braunfels	K280GC	CP DV_ TX	39.2 219.3	36.44 BNPFT20130828AAH	29 40 20.0 98 14 43.0	0.250 126	3.5 387	2.3 Educational Media Foundati	23.0	20.6
276C2 Karnes City	KHHL	CP ZCX TX	141.3 321.6	78.74 BPH20110729ACW	28 51 52.0 97 58 41.8	50.000 150	5.1 266	46.9 Bmp San Antonio License Co	55.6	28.5
280A Smiley	AL5227	VAC ____ TX	102.1 282.5	94.08 RM10537	29 14 17.0 97 32 07.0	6.000 100	45.2 185	28.7 Linda Crawford	34.0	45.1
276C2 Karnes City	KHHL	LIC _CX TX	119.4 299.8	91.15 BLH20100913ABT	29 00 46.0 97 40 02.0	34.000 180	5.9 295	52.5 Bmp San Antonio License Co	68.3	37.8
276A Bandera	KEEP	LIC NC_ TX	309.8 129.5	76.19 BMLH20000823ACP	29 51 21.0 99 05 26.0	3.500 131	3.0 626	34.1 Hill Country Broadcasting,	57.9	41.1

Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= West Zone, Co to 3rd adjacent.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.
Reference station has protected zone issue:

BPFT20110118ABN
Latitude: 29-25-06 N
Longitude: 098-29-01 W
ERP: 0.22 kW
Channel: 279
Frequency: 103.7 MHz
AMSL Height: 384.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None





-  60 dBu F(50,50) Service Contour
-  40 dBu F(50,10) Interfering Contour
-  54 dBu F(50,10) Interfering Contour
-  100 dBu F(50,10) Interfering Contour

Exhibit E-4
Contour Interference Study
K279AB - San Antonio, Texas
San Antonio Radioworks, LLC
June, 2014

