October 2014
FM Translator K281BN
Yucca Valley, California Channel 279D
Allocation Study

The instant application proposes to modify the authorization for FM translator K281BN, to operate on Channel 279D at Yucca Valley, California.

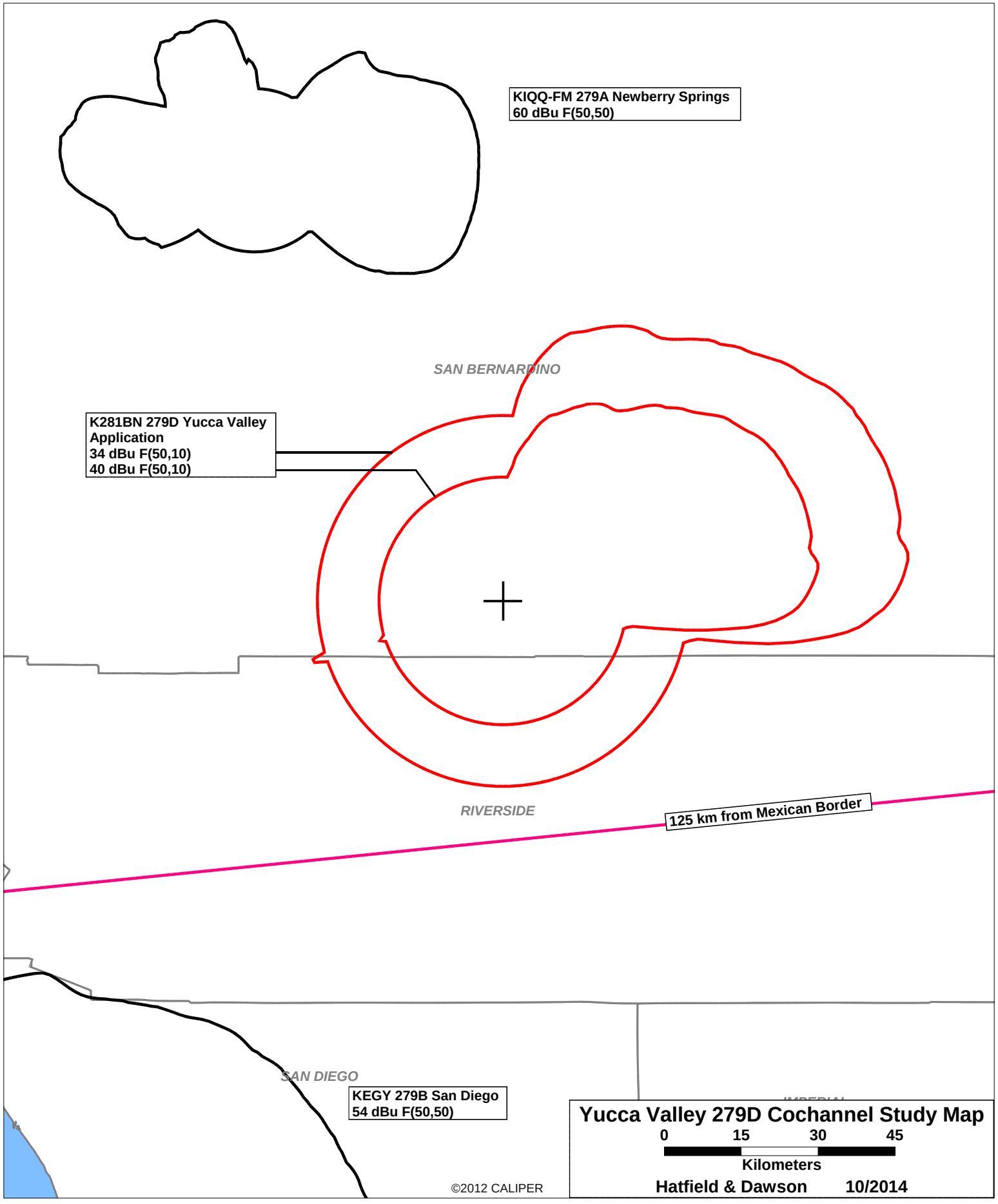
The attached spacing study shows the spacing between the proposed translator site and the location of cochannel and adjacent channel stations and proposals. This study was made with the Commission's Class A spacing requirements, and individual situations were examined to determine the lack of prohibited contour overlap per the requirements of §74.1204 of the Rules. The attached allocation study maps demonstrate compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204.

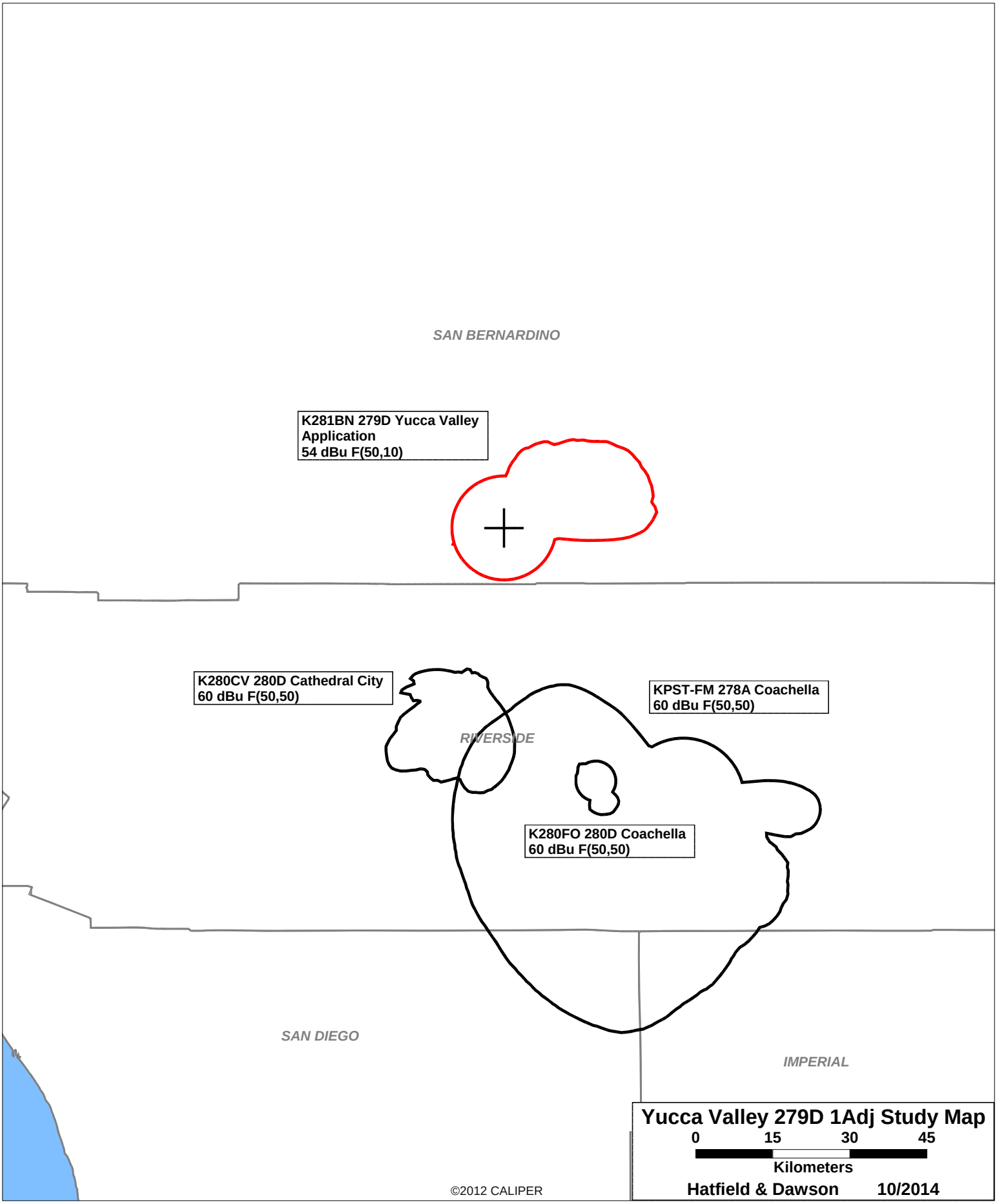
The attached spacing study demonstrates compliance with §73.207 of the Commission's Rules regarding spacing restrictions to stations which are 53 or 54 channels removed from the proposed operation.

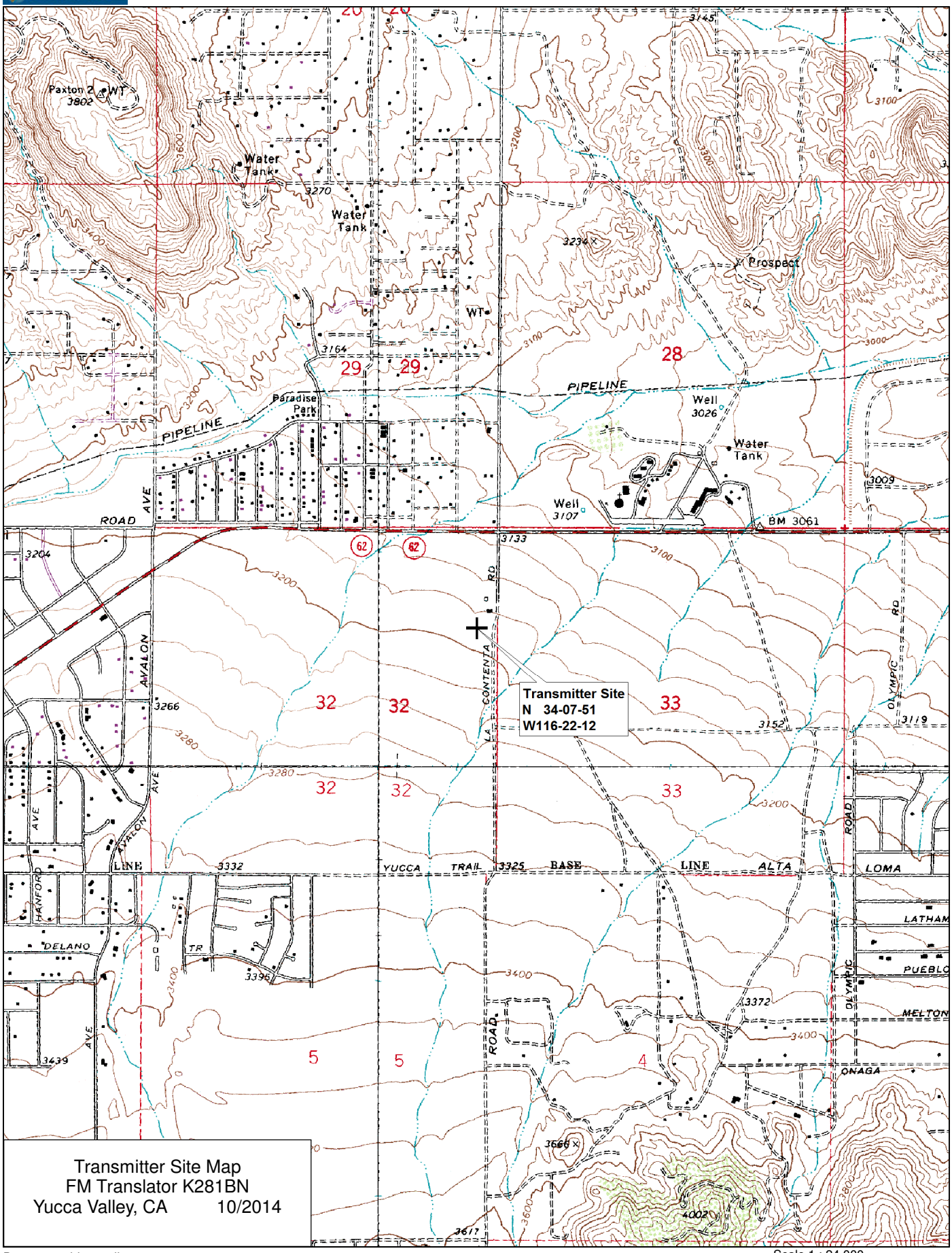
SEARCH PARAMETERS FM Database Date: 141020
Channel: 279A 103.7 MHz
Latitude: 34 7 51
Longitude: 116 22 12
Safety Zone: 50 km
Job Title: YUCCA VALLEY 279

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)		Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
K226BT	INDIO		226D	0.001		33-48-06	159.8	38.91	10
CP	CA	BNPFT-30328AIX	93.1	556.0		116-13-28		28.91	CLEAR
KEZN	PALM DESERT		276A	1.900		33-51-58	191.2	29.94	31
LIC	CA	BMLH-30613AAE	103.1	180.0		116-25-59		-1.06	SHORT
KEZNaux	PALM DESERT		276A	0.640		33-51-58	191.2	29.94	0
LIC	CA	BXMLH-30612AAK	103.1	171.0		116-25-59		0.00	AUX
KPST-FM	COACHELLA		278A	1.900	DA	33-39-23	146.4	63.21	72
LIC	CA	BLH-20521BEN	103.5	179.0		115-59-29		-8.79	SHORT
KOSTaux	LOS ANGELES		278B	4.200		34-13-32	274.3	156.57	0
LIC	CA	BLH-970324KE	103.5	858.0		118-03-52		0.00	AUX
KOST	LOS ANGELES		278B	12.500		34-13-32	274.3	156.57	113
LIC	CA	BLH-930831KD	103.5	949.0		118-03-52		43.57	CLEAR
KIQQ-FM	NEWBERRY SPRINGS		279A	6.000		34-53-07	330.3	96.62	115
LIC	CA	BLH-01219ABK	103.7	86.0		116-53-45		-18.38	SHORT
KEGY	SAN DIEGO		279B	26.500		32-50-20	209.8	164.94	178
LIC	CA	BLH-70409AAQ	103.7	210.0		117-14-56		-13.06	SHORT
K280CV	CATHEDRAL CITY		280D	0.250	DA	33-51-56	191.1	29.99	0
LIC	CA	BLFT-20501AFC	103.9	412.0		116-25-58		0.00	TRANS
K280FO	COACHELLA		280D	0.022		33-41-18	160.0	52.25	0
CP	CA	BNPFT-30827AKM	103.9	71.0		116-10-34		0.00	TRANS
950921MK	ESSEX		280B	0.000		34-44-12	56.5	123.20	113
VAC	CA	BLANK-	103.9	0.0		115-14-48		10.20	CLEAR
KCXX	LAKE ARROWHEAD		280A	0.180		34-14-03	279.4	71.93	72
LIC	CA	BLH-960502KA	103.9	548.0		117-08-25		-0.07	SHORT
K281BN	YUCCA VALLEY		281D	0.010		34-04-55	155.2	5.98	0
LIC	CA	BLFT-20802AAF	104.1	692.0		116-20-34		0.00	TRANS
K281BN	YUCCA VALLEY		281D	0.250		34-07-51	0.0	0.00	0
CP	CA	BPFT-40902ACJ	104.1	233.0		116-22-12		0.00	TRANS
KFUT	MECCA		282A	6.000	DA	33-42-09	145.1	57.94	31
CP	CA	BNPH-30624ABC	104.3	19.0		116-00-41	SS	26.94	CLEAR

==== END OF FM SPACING STUDY FOR CHANNEL 279 ====


KIQQ-FM 279A Newberry Springs
60 dBu F(50,50)
SAN BERNARDINO
K281BN 279D Yucca Valley
Application
34 dBu F(50,10)
40 dBu F(50,10)
RIVERSIDE
125 km from Mexican Border
SAN DIEGO
KEGY 279B San Diego
54 dBu F(50,50)
©2012 CALIPER
Yucca Valley 279D Cochannel Study Map
0 15 30 45
Kilometers
Hatfield & Dawson 10/2014


SAN BERNARDINO
K281BN 279D Yucca Valley
Application
54 dBu F(50,10)
K280CV 280D Cathedral City
60 dBu F(50,50)
KPST-FM 278A Coachella
60 dBu F(50,50)
RIVERSIDE
K280FO 280D Coachella
60 dBu F(50,50)
SAN DIEGO
IMPERIAL
©2012 CALIPER
Yucca Valley 279D 1Adj Study Map
0 15 30 45
Kilometers
Hatfield & Dawson 10/2014



Transmitter Site Map
FM Translator K281BN
Yucca Valley, CA 10/2014

TN
MN (11.9°E)

Scale 1 : 24,000
0 600 1200 1800 2400 3000 ft
0 200 400 600 800 1000 m
1 cm = 240.0 m Data Zoom 13-1

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FM Translator K281BN
Yucca Valley, California Channel 279D
RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 279D (103.7 MHz) with an effective radiated power of 250 watts. Operation is proposed with an ERI 100A-2F-HW antenna to be mounted on the existing tower used by non-directional AM station KNWH. The FCC Antenna Structure Registration Number for this tower is 1251024.

RF Exposure Calculations

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 1000 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the K281BN antenna system have been made assuming that the antenna will radiate 100% power straight down to a point 2 meters above ground at the base of the tower (42 meters below the antenna). Under this worst-case assumption, the highest calculated ground level power density from K281BN occurs at the base of the antenna support structure. At this point the power density is calculated to be 9.5 $\mu W/cm^2$, which is 1% of 1000 $\mu W/cm^2$ (the FCC standard for controlled environments) and 4.8% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency radiation in excess of FCC guidelines.

KNWH(AM) 1250 kHz Yucca Valley

KNWH operates with 800 watts nondirectional daytime and 80 watts nondirectional nighttime. The tower is 77.8 electrical degrees tall, or 21.6% of the station wavelength. Using the AM Fence

Tables in Worksheet 3 of FCC Form 301, the fencing distance requirement for KNWH is 1 meter from the tower base. This requirement is satisfied by the current fencing around the AM tower.