

**Technical Exhibit**

CENTRO CRISTIANO DE FE, INC.

Technical Exhibits in Support of

**MINOR AMENDMENT**

To Application for NCE-FM Construction Permit (BNPED-20071022ABF)

CHANNEL 213 A

6 kW ERP (directional antenna)

-77 meters HAAT (FCC/NGDC 30 Second Terrain)

1002 meters COR AMSL

30 meters COR AGL

34 7 51 N x 116 22 12 W (NAD 27)

YUCCA VALLEY, CA

December 9, 2007

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CENTRO CRISTIANO DE FE, INC.  
Technical Exhibits in Support of **MINOR AMENDMENT** to  
Application for NCE-FM Construction Permit (BNPED-20071022ABF)

**NEW NCE-FM CH213A – 90.5MHz – 6 kW -77 M HAAT – YUCCA VALLEY, CA**

This Exhibit is in support of the Minor Amendment to Application for NCE-FM Construction Permit (BNPED-20071022ABF) by CENTRO CRISTIANO DE FE, INC. (herein “Applicant”) for a new NCE-FM radio station (herein “NEW-FM”) to serve Yucca Valley, California. Specifically, this amendment proposes increased ERP, a slight directional antenna pattern, a detailed TV-6 interference exhibit (without waiver request), and a corrected exhibit demonstrating required spacing with respect to Mexican facilities. The application as proposed is a “singleton” application suitable to be accepted for filing by the Commission.

**Interference Compliance**

Contour protection, as required by C.F.R. Section 73.509 to co-channel, first, second and third adjacent channels is shown herein and is 100% (Figures 1 - 3). Required spacing with respect to facilities operating on I.F. frequencies is fully compliant with C.F.R. Section 73.207 of the Commission’s Rules (Table 1).

**International Borders (Mexico)**

The proposed facility is located approximately 170 km from the Mexican border (located within the 320 km Mexican Border Zone). Required spacing with respect to Mexican facilities operating on co-channel, first, second and third adjacent I.F. frequencies is fully compliant with C.F.R. Section 73.507 of the Commission’s Rules (Table 3).

**Television Channel 6 Protection (Figure 4)**

Section 73.525 of the Commission’s rules designates TV Channel 6 stations within 193 km of FM stations that operate on channel 213 to be “affected” TV Channel 6 stations. The following TV Channel 6 stations would be considered affected:

Facility	Service	Status	City	State	Distance (km)
K06MB	CA	LIC	INDIO	CA	38.85
K61AJ	LD	APP	PALMDALE	CA	122.54
KSFV-LP	CA	CP	SAN FERNANDO VALLEY	CA	156.23
NEW	LD	APP	LOS ANGELES	CA	156.23
XETV	TV	LIC	TIJUANA	BN (MEX)	191.33

For “TV” service, the “worst case,” the protected TV Channel 6 contour is the Grade B, 47 dBu F(50,50) contour. For NCE-FM stations operating on Channel 213, FCC Chart 73.599 Figure 1, designates the corresponding FM interfering contour to be the 69.5 dBu F(50,10) contour (47 dBu TV + 22.5 dBu FM = 69.5 dBu). No contour overlap occurs with any of the other affected TV Channel 6 facilities (see Figure 4).

For “CA” and “LD” service, the “worst case,” the protected TV Channel 6 contour is the Grade B, 62 dBu F(50,50) contour. For NCE-FM stations operating on Channel 213, FCC Chart 73.599 Figure 1, designates the corresponding FM interfering contour to be the 69.75 dBu F(50,10) contour (62 dBu TV + 7.75 dBu FM = 69.75 dBu). No contour overlap occurs with any of the other affected TV Channel 6 facilities (see Figure 4).

Therefore, this proposal is fully compliant with Section 73.525 of the Commission’s rules.

### **Environmental Protection Act / RF Radiation Compliance (Table 2)**

The Rules require that an addition to any multiple use site must not contribute non-ionizing RF Radiation in excess of the total limits for each class of service in either of the two selected environments.

In the case of FM, this limit is 1,000 microwatts for the controlled, or worker environment, or 200 microwatts for the uncontrolled, or public, environment per square centimeter at 2 meters above ground level.

NEW-FM proposes to use SHIVELY 6810-2 antenna located at 30 meters AGL.

The attached Radiofrequency Electromagnetic Exposure Analysis (Table 2) specifically lists all potential sources of radiation and estimates the power density expected to occur at a distance of 10 meters from the base of the tower, the maximum power density expected from each source, the maximum distance from the base of the tower to the point of maximum power density for each source, and the total worst case (sum of all maximum power densities, from all sources, at the most distant maximum occurring power density). The power density values are in units of microwatts per square meter at a height of 2 meters above ground level. These levels are also expressed relative to the maximum allowable limit of each of the two environments (see Table 2).

Considering all existing and proposed sources, the total contribution of all potential sources of radiation within 10 meters from the base of the tower (controlled environment) is 37.7 microwatts per square centimeter at 2 meters above ground level which is 3.77% of the ANSI limit for the controlled environment.

For the uncontrolled environment, the sum of all individual source maximum power densities is 67.0 microwatts per square centimeter at 2 meters above ground level. The maximum power density value extends no farther than 18.4 meters from the base of the tower. This represents a “worst case” power density level which is only 33.5% of the ANSI limit for the uncontrolled environment.

Given that access within 10 meters to the site is restricted by a locked fence, and given that no more than 67 microwatts per square centimeter at 2 meters above ground level (33.5% of the ANSI limit) is predicted to occur at any point beyond 18.4

meters from the base of the tower, the total radiation contributed by NEW-FM would be less than the ANSI limit for all points in both the controlled and the uncontrolled environments. Therefore, this proposal is fully compliant with the provisions of OET Bulletin #65 as recently amended.

The contribution of NEW-FM was calculated using FCC FM Model v2.10 Beta. Further to the requirements and intentions of the FCC, Applicant will post appropriate signs at entrances to the property, on the walls and doors of buildings containing transmitters, and on fences warning the public and workers of the potential hazard.

Applicant will require that the power to the antenna be reduced as necessary to accommodate workers or will discontinue operation, if necessary, for this purpose.

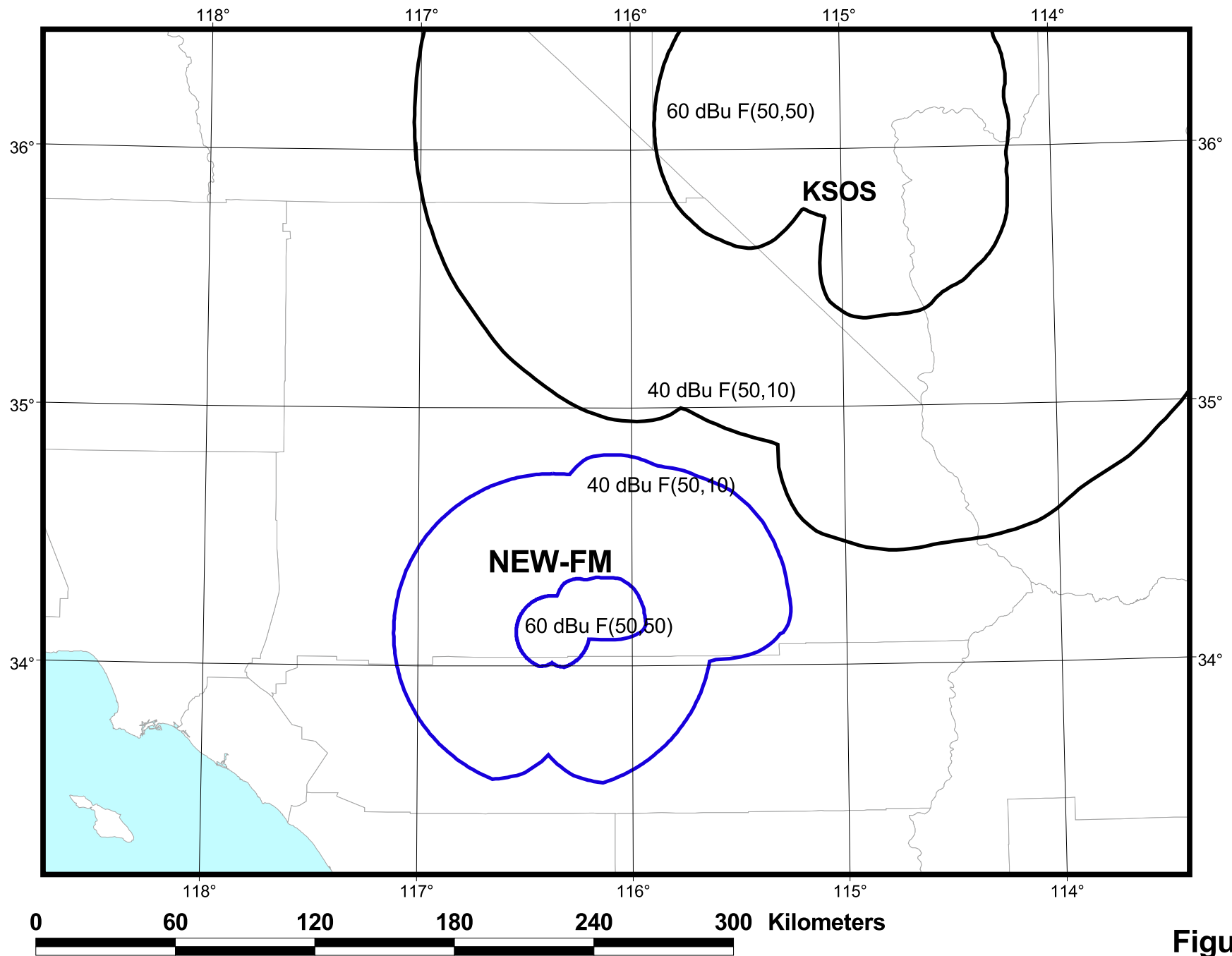
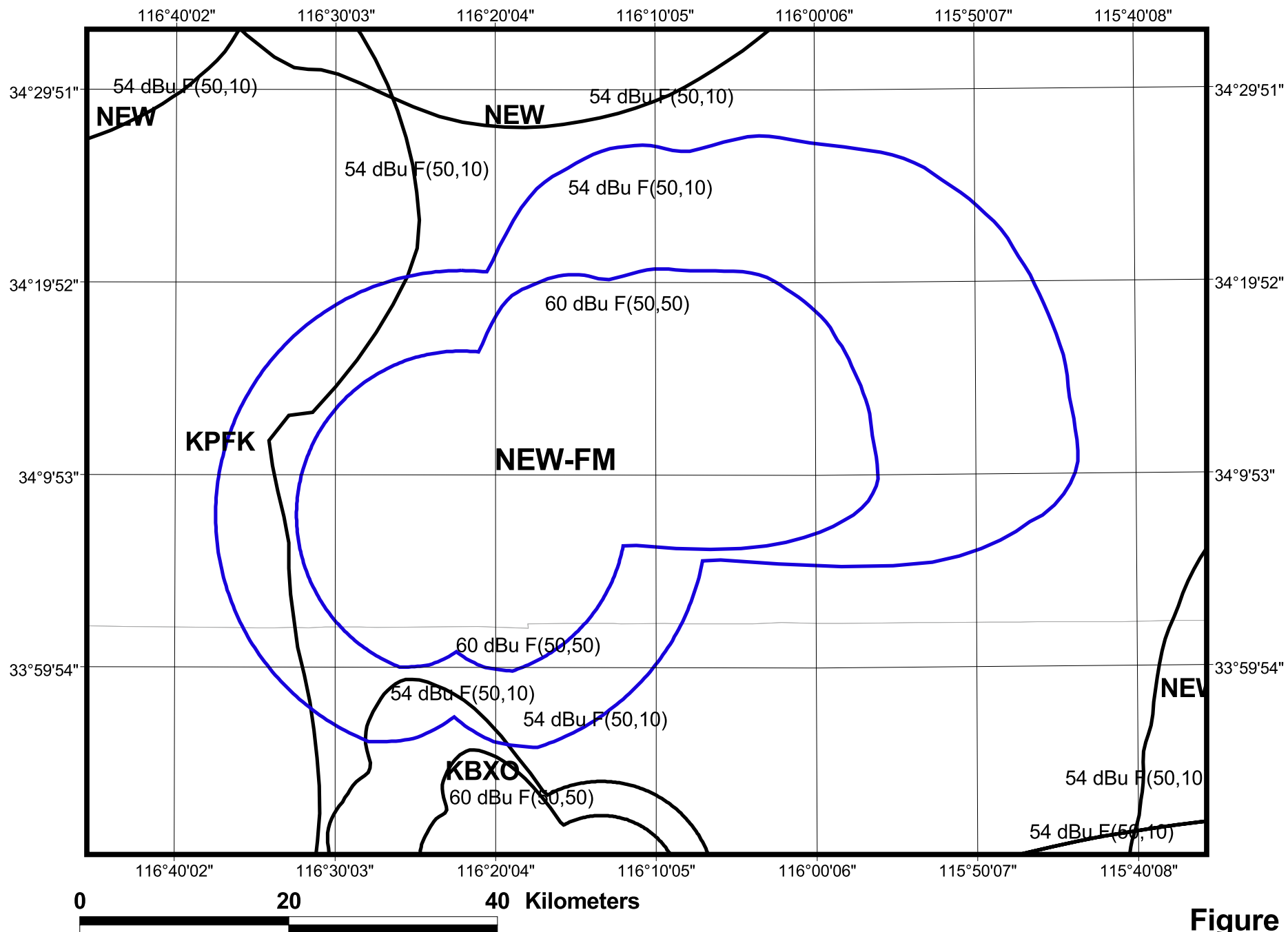


Figure 1

**NEW-FM, Yucca Valley, CA APPLICATION FOR NEW NCE-FM  
Co-Channel Study**

**Radio Data Services**





**Figure 2**



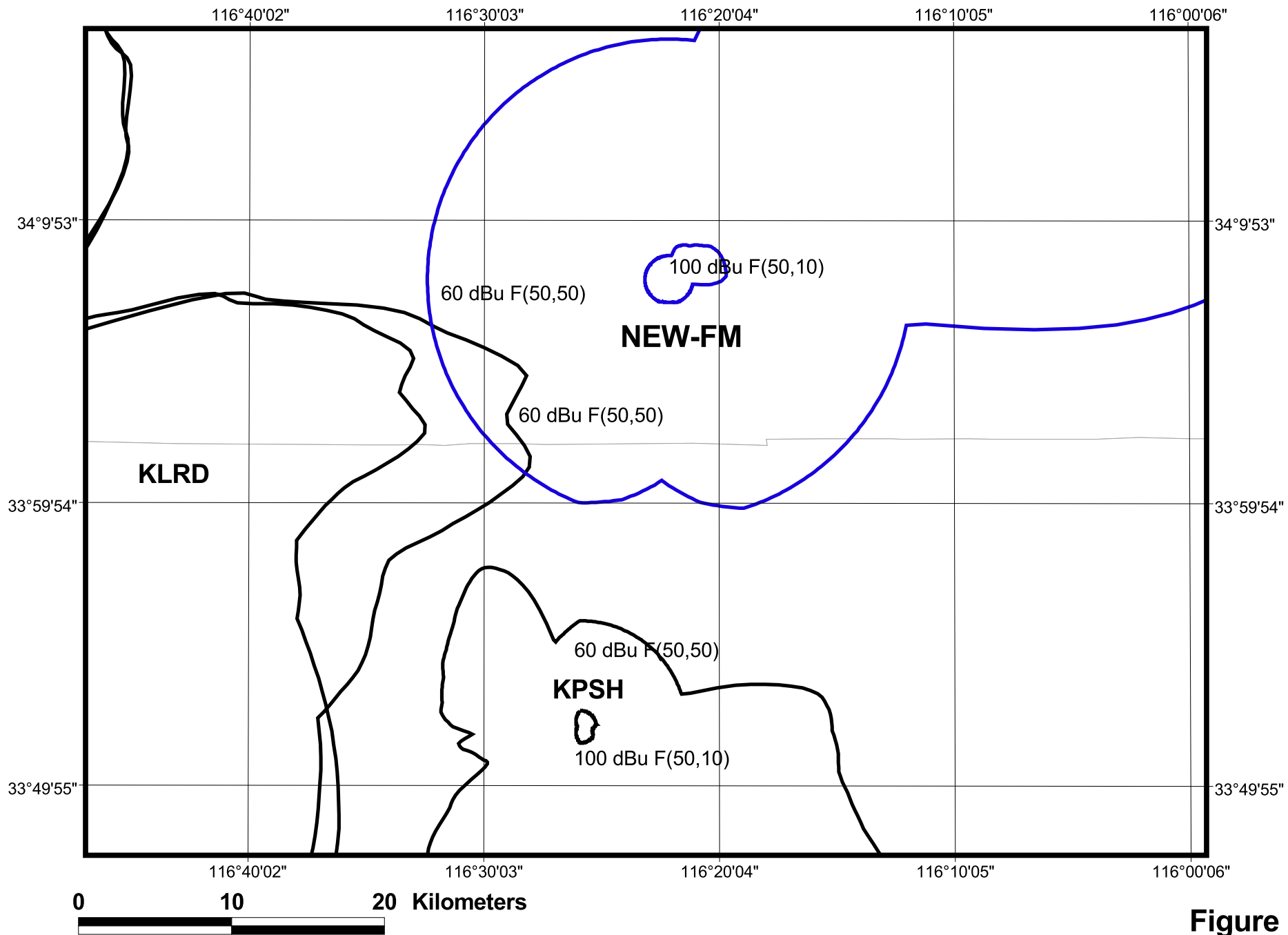
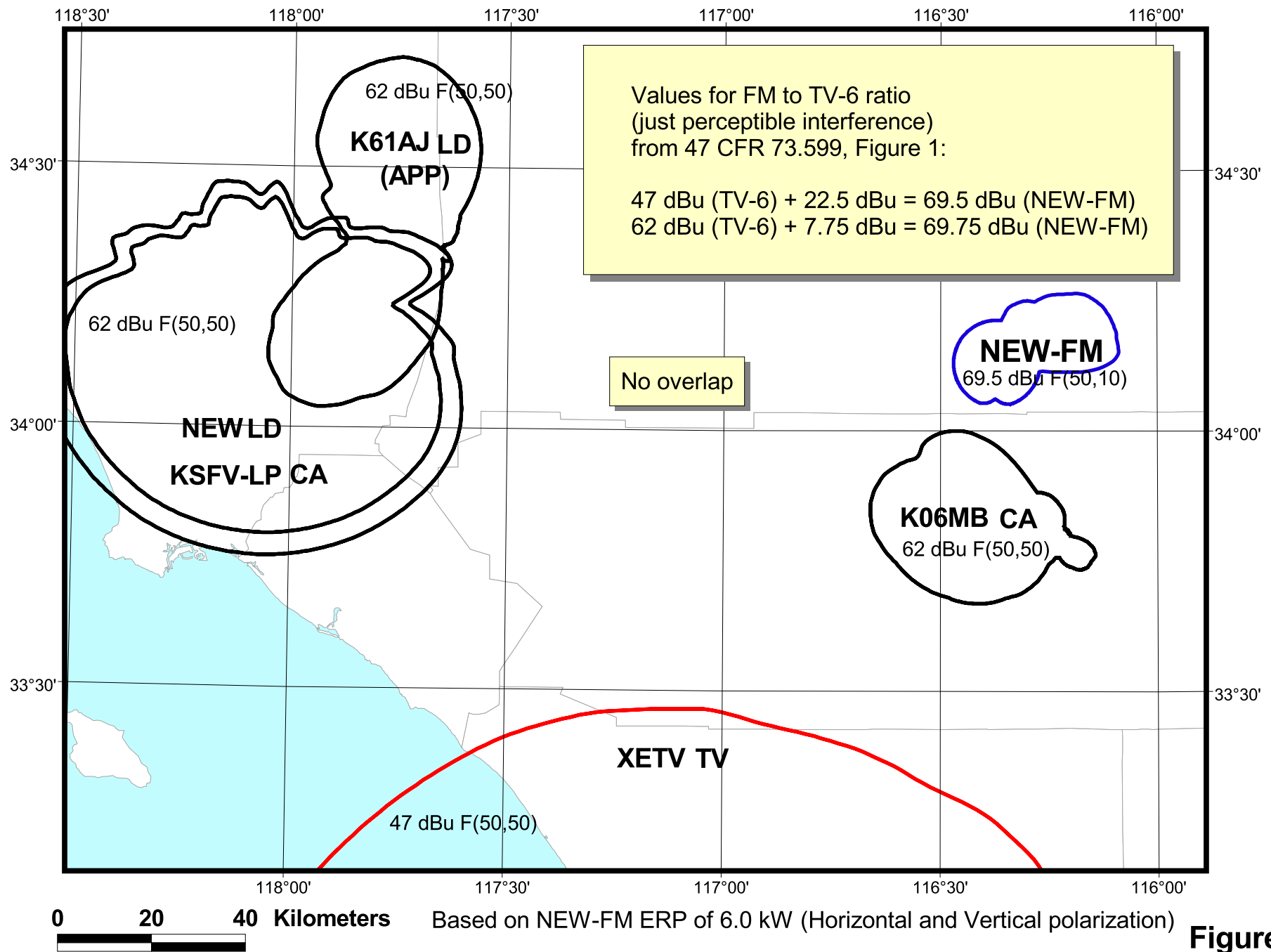


Figure 3

NEW-FM, Yucca Valley, CA APPLICATION FOR NEW NCE-FM  
2nd and 3rd Adjacent Channel Study

Radio Data Services





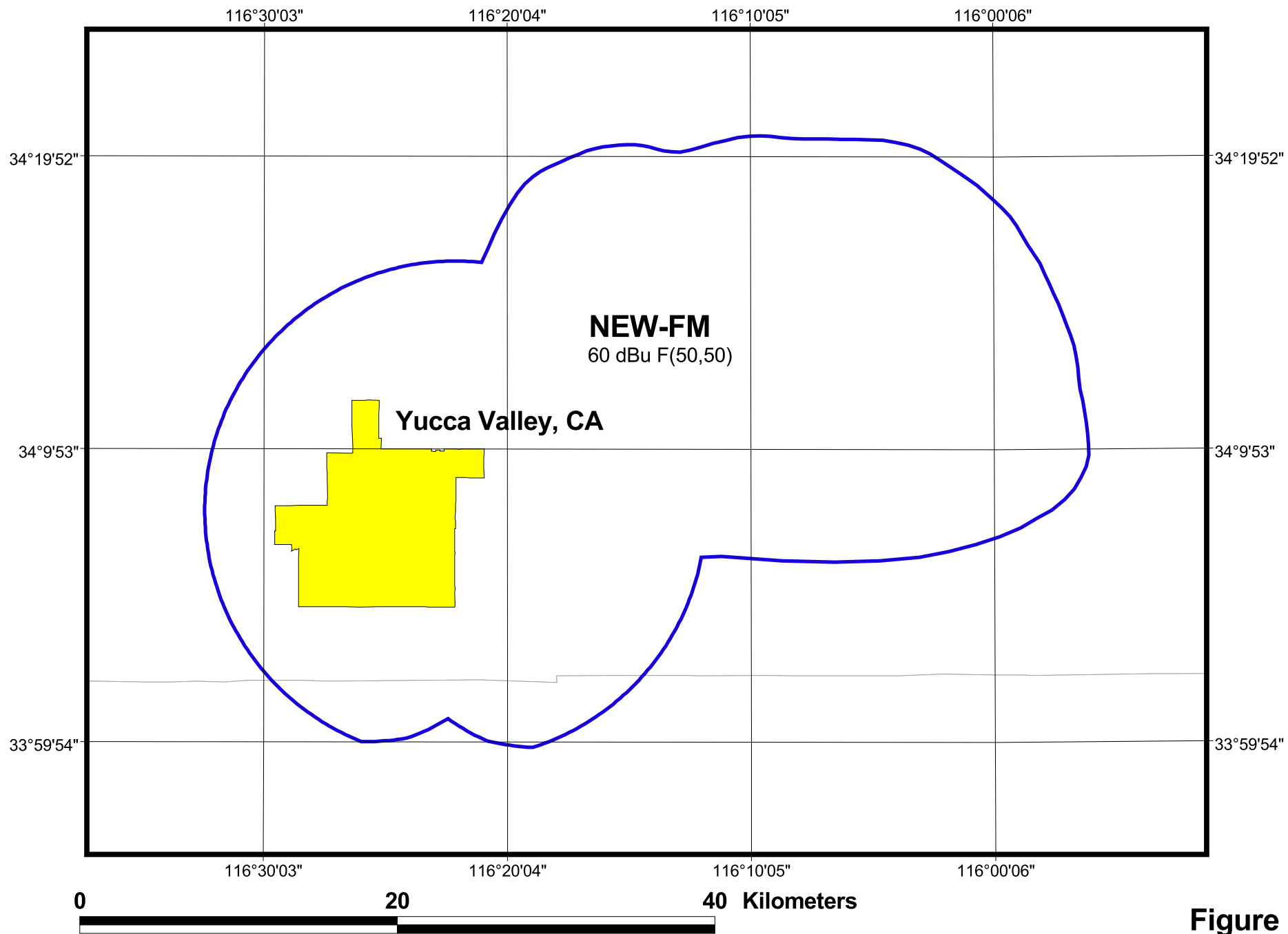
**Figure 4**

**NEW-FM, Yucca Valley, CA APPLICATION FOR NEW NCE-FM  
TV-6 Interference Exhibit: with respect to affect TV-6 facilities**

**Radio Data Services**







**NEW-FM, Yucca Valley, CA APPLICATION FOR NEW NCE-FM**  
**Community Coverage: Yucca Valley, California**

**Radio Data Services**



Table 1

NEW-FM Application for NCE-FM Construction Permit  
Channel Study

Chan	Class	Call Letters	Type	Status	City	State	Country	Owner	Distance (km)	Bearing TO (deg)	Req. Dist. (km)	Clearance (km)
211	B	KLRD	FM	APP	YUCAIPA	CA	US	EDUCATIONAL MEDIA FOUNDA'	48.9	261.2	33.9	15.0
211	B	KLRD	FM	LIC	YUCAIPA	CA	US	EDUCATIONAL MEDIA FOUNDA'	49.0	260.2	31.0	18.0
211	A	KLRD	FA	USE	YUCAIPA	CA	US		62.7	260.3	31.0	31.7
212	A	KBXO	FM	LIC	COACHELLA	CA	US	CREATIVE EDUCATIONAL MEDI	38.8	159.9	31.1	7.7
212	B	NEW	FM	APP	BARSTOW	CA	US	UNIVERSITY OF SOUTHERN CA	96.6	330.2	51.3	45.3
212	C3	NEW	FM	APP	DESERT CENTER	CA	US	THE YOUTH FOUNDATION & CE	99.9	121.7	43.5	56.4
212	C2	NEW	FM	APP	BARSTOW	CA	US	SAN BERNARDINO COMMUNITY	101.4	322.2	54.6	46.7
212	C3	NEW	FM	APP	BARSTOW	CA	US	GOSPEL SPOTS, INC	102.8	323.9	51.3	51.5
212	B	NEW	FM	APP	BARSTOW	CA	US	SANTA MONICA COMMUNITY C	111.6	326.9	78.6	33.0
<b>213</b>	<b>A</b>	<b>NEW</b>	<b>FM</b>	<b>APP</b>	<b>YUCCA VALLEY</b>	<b>CA</b>	<b>US</b>	<b>5. CENTRO CRISTIANO DE FE, I</b>	<b>0.0</b>	<b>238.9</b>	<b>106.2</b>	<b>-106.2</b>
214	B	KPFK	FM	LIC	LOS ANGELES	CA	US	PACIFICA FOUNDATION, INC.	156.9	274.5	154.4	2.4
214	B	KPFK	FA	USE	LOS ANGELES	CA	US		156.9	274.5	113.0	43.9
215	A	KPSH	FM	LIC	COACHELLA	CA	US	FAMILY WORSHIP CENTER CHL	29.8	191.2	15.6	14.1
216	A	NEW	FM	APP	HEMET	CA	US	LIFE ON THE WAY COMMUNICA	62.9	246.9	16.4	46.4
216	B1	NEW	FM	APP	SAN BERNARDINO	CA	US	SAN BERNARDINO ACORN	63.4	238.3	16.1	47.3
216	A	NEW	FM	APP	PERRIS	CA	US	CALIFORNIA STATE UNIVERSIT	63.4	238.3	15.9	47.4
267	A	KATY-FM	FA	USE	IDYLLWILD	CA	US		54.4	215.1	10.0	44.4
267	A	KATY-FM	FM	LIC	IDYLLWILD	CA	US	ALL PRO BROADCASTING, INC.	57.1	217.9	10.0	47.0

**Table 2.**

## Radiofrequency Electromagnetic Exposure Analysis for NEW-FM

Source	Height AGL(m)	Antenna type	Bays	Horizontal ERP (kw)	Vertical ERP (kw)	Power Density $\mu\text{W}/\text{cm}^2$ at 2 meters AGL				
						Max. PD within 10 m distance	% controlled environment limit (1000 $\mu\text{W}/\text{cm}^2$ )	Max. PD beyond 10 m	% uncontrolled environment limit (200 $\mu\text{W}/\text{cm}^2$ )	Distance to max PD past 10 m (m)
<b>NEW-FM</b>	<b>30</b>	<b>SHI-6810-2</b>	<b>2</b>	<b>6.000</b>	<b>6.000</b>	<b>37.700</b>	<b>3.7700%</b>	<b>67.0000</b>	<b>33.50%</b>	<b>18.4</b>
<b>TOTAL</b>						37.700	3.7700%	67.0000	33.50%	18.4

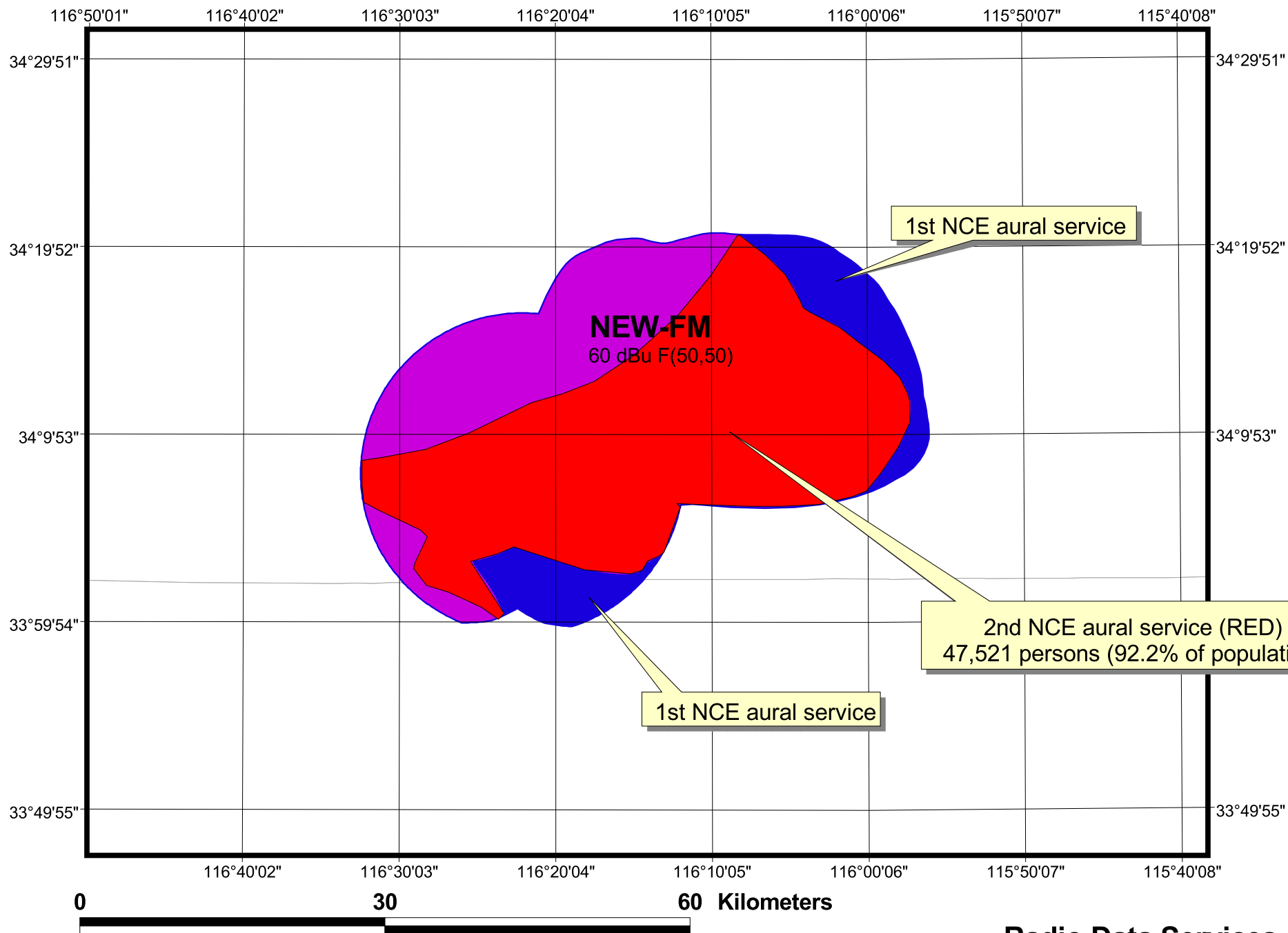
**(proposed)**

The proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments).

Calculations made using FCC FM Model v2.10 Beta

**Table 3****Sec. 73.507 Required Spacing with Respect to Mexican Facilities****NEW-FM Application for NCE-FM Construction Permit  
Channel Study**

										Sec. 73.507		
Chan	Class	Call Letters	Type	Status	City	State	Country	Owner	Distance (km)	Bearing TO (deg)	Req. Dist. (km)	Clearance (km)
214	C	XHMOEFM	FA		MEXICALI	BN	MX		186.0	152.5	161.0	25.0
214	C	XHMOEFM	FM		MEXICALI	BN	MX		186.0	152.5	161.0	25.0
212	C	XHITZ	FM		TIJUANA	BN	MX		190.5	199.2	161.0	29.5



**NEW-FM, Yucca Valley, CA APPLICATION FOR NEW NCE-FM**  
**Form 340, Section III, Questions 1-2 Exhibit: 1st (BLUE) and 2nd (RED) NCE aural service area**