

EXHIBIT 13

Interference Considerations

Introduction

This application is for modification of the facilities of an FM translator under the “250-mile window application” procedure set forth in the Commission’s AM Revitalization proceeding, MB Docket No. 13-249. The application requests a change in the location of the transmitting facilities for the modified translator, and operation on Channel 256D with 25 watts effective radiated power and employing a directional antenna, to provide fill-in service for Class B AM station KPSI, Palm Springs, California.

The geographical coordinates (NAD27) of the proposed FM translator site are as follows:

North latitude 33° 52’ 00”
West longitude 116° 26’ 03”.

At this location the ground elevation is 474 meters above mean sea level.

The proposed operation of the modified FM translator conforms with the requirements of Section 74.1204 of the Commission’s Rules for a Class D station on Channel 256 with respect to overlap of predicted contours with the licensed operation of any FM station, LPFM station or FM translator, and the operation of any such facilities specified in a construction permit or pending application, on the same channel, the first adjacent channels, one of the second adjacent channels, and one of the third adjacent channels, as shown in this Exhibit. On the other second adjacent channel and third adjacent channel, the site for the proposed translator is located within the predicted protected contour of an existing FM station. This exhibit demonstrates that, under Section 74.1204(d) of the Rules, no objectionable interference will be caused to either of these FM stations. The proposed operation of the translator therefore would not result in objectionable interference to any station.

Description of Directional Antenna System

The basic composite directional antenna system for the proposed modified FM translator is comprised of two circularly polarized Scala Model CA5-FM/CP Antennas spaced 0.87 wavelength apart in the vertical plane, with both of the five-element Yagi antennas oriented to zero degrees True from a common point of origin. The antennas are driven with phase difference and power division in a manner to develop the desired radiation pattern. For the proposed operation, the basic antenna array is oriented clockwise by 183 degrees, so that maximum radiation is in the direction 183 degrees True. The antenna system will be mounted on an existing tower, with the radiation center located 7 meters above ground.

EXHIBIT 13 (continued)

Interference Considerations

The values of relative radiation for the horizontal radiation pattern for the composite antenna array are tabulated in Item 10 of the Tech Box in Section III-A of FCC Form 349 for this application. This data was provided by the antenna manufacturer, Kathrein USA.

Allocation Study

The FM stations, LPFM station and FM translator taken into account in the allocation study for this application are listed in Table A of this Exhibit.

Figure 1 of this Exhibit shows the pertinent predicted contours for the proposed translator and co-channel Class B station KGGI(FM), Riverside, California.

The pertinent predicted contours for the proposed translator and first-adjacent-channel LPFM station KZLQ-LP, La Quinta, California, on Channel 255L1; and FM translator K257DV, Twenty-nine Palms, California, on Channel 257D, are shown in Figure 2 of this Exhibit.

Figure 3 of this Exhibit depicts the location of the proposed translator site with respect to the predicted protected contours for the pertinent FM stations on the second and third adjacent channels. As shown in Figure 3, the proposed site is located within the 60 dBu F(50,50) contour for Class A station KMRJ(FM), Rancho Mirage, California, on Channel 258A; and also within the 54 dBu F(50,50) contour for Class B station KDES-FM, Cathedral City, California, on Channel 253B.

The potential for interference from the proposed operation of the translator to KMRJ(FM) and KDES-FM was evaluated by determining the area within which the ratio of undesired to desired signal between the translator and each of these stations equals or exceeds 40 dB, using free space propagation calculations for the translator signal.

With respect to KMRJ(FM), the predicted F(50,50) signal of KMRJ(FM) at the proposed translator site is 78.5 dBu, and interference would occur where the translator signal is greater than 118.5 dBu (841 mV/m). Computations show that, for operation at 25 watts effective radiated power and assuming uniform radiation from the proposed translator in all directions in the horizontal plane, interference to KMRJ(FM) would not extend beyond a distance of 42 meters from the translator antenna.

EXHIBIT 13 (continued)

Interference Considerations

The distance between the proposed FM translator site and KDES-FM is less than 0.10 kilometer. Computations show that, for operation at 25 watts effective radiated power and assuming uniform radiation from the proposed translator in all directions in the horizontal plane, interference to KDES-FM would not extend beyond a distance of 3 meters from the translator antenna.

The map of Figure 4 of this Exhibit is a USGS 7-1/2-minute topographic map showing the vicinity of the proposed FM translator site. Figure 4 depicts the proposed translator site and a circle drawn at a radius of 0.042 kilometer from the proposed antenna system. The part of the map showing the contour overlap has been compared with up-to-date aerial photography from the Google Earth website for accuracy.

The location of the proposed FM translator is at the Edom Hill “antenna farm.” There are no residences or occupied buildings, and no accessible roads, within the 0.042-kilometer-radius circle. This application conforms with the requirements of Section 74.1204(d) of the Commission’s Rules, as the area within the circle is unpopulated, and operation of the proposed FM translator therefore would not result in objectionable interference to either KMRJ(FM) or KDES-FM.

The site for the proposed modified translator is located within 320 kilometers of the U.S.-Mexico border. With respect to the requirements of Section 74.1235(d) of the Commission’s Rules, the proposed translator site is 141 kilometers, or more than 125 kilometers, from the international border. The maximum distance to the 60 dBu F(50,50) contour for the proposed translator is 13.8 kilometers, and the contour therefore does not fall within 116.3 kilometers of the border.

From a review of the pertinent FM assignments and allotments, there are three Mexican stations on first adjacent channels to Channel 256D to be considered with respect to the proposed translator. They are Class B station XHMOREFM, Tijuana, on Channel 255B; Class B1 station XHKYFM, Tijuana, on Channel 257B1; and Class A station XHATEFM, Tecate, on Channel 257A (all in Baja Norte, Mexico). Computations show that the distance separation between the proposed translator and each of these stations conforms with the spacing requirements of Section 73.207(b)(3) of the Commission’s Rules for a Class A station in the United States and the respective stations in Mexico.

EXHIBIT 13 (continued)

Interference Considerations

The predicted contours shown in this Exhibit were determined in accordance with the requirements of Section 73.313 of the Commission's Rules, from computerized calculations based on the NGDC 30-second terrain database, and Figures 1 and 1a of Section 73.333 of the Rules. Distances to the contours were calculated at azimuthal increments of one degree.

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Sierra Madre, California

EXHIBIT 13 (continued)

Interference Considerations

TABLE A

Station Facilities

	Channel and Class	Station and Location, Status, File Number	Geographical Coordinates	Facilities	
				Effective Radiated Power and Antenna	Antenna Height Above Average Terrain (meters)
Co-Channel Stations	256D	Proposed Modified Translator, Palm Springs, CA	N 33° 52' 00" W 116° 26' 03"	0.025 kW Directional	-----
	256B	KGGI(FM), Riverside, CA License BLH-19910802KF	N 34° 14' 04" W 117° 08' 24"	2.55 kW Nondirectional	562
First Adjacent Channel Stations	255L1	KZLQ-LP, La Quinta, CA Construction permit BNPL-20131113ABE	N 33° 48' 06" W 116° 13' 28"	0.003 Nondirectional	177
	257D	K257DV, Twenty-nine Palms, CA License BLFT-20060314ADU	N 34° 04' 32" W 115° 57' 18"	0.01 kW Nondirectional	-----
Second and Third Adjacent Channel Stations	253B	KDES-FM, Cathedral City, CA License BLH-20100928AFU	N 33° 51' 56" W 116° 26' 04"	43.0 kW Nondirectional	161
	258A	KMRJ, Rancho Mirage, CA License BLH-19980724KA	N 33° 52' 15" W 116° 13' 37"	3.0 kW Nondirectional	100

EXHIBIT 13 (continued)
Interference Considerations

FIGURE 1
Co-Channel Interference
Considerations

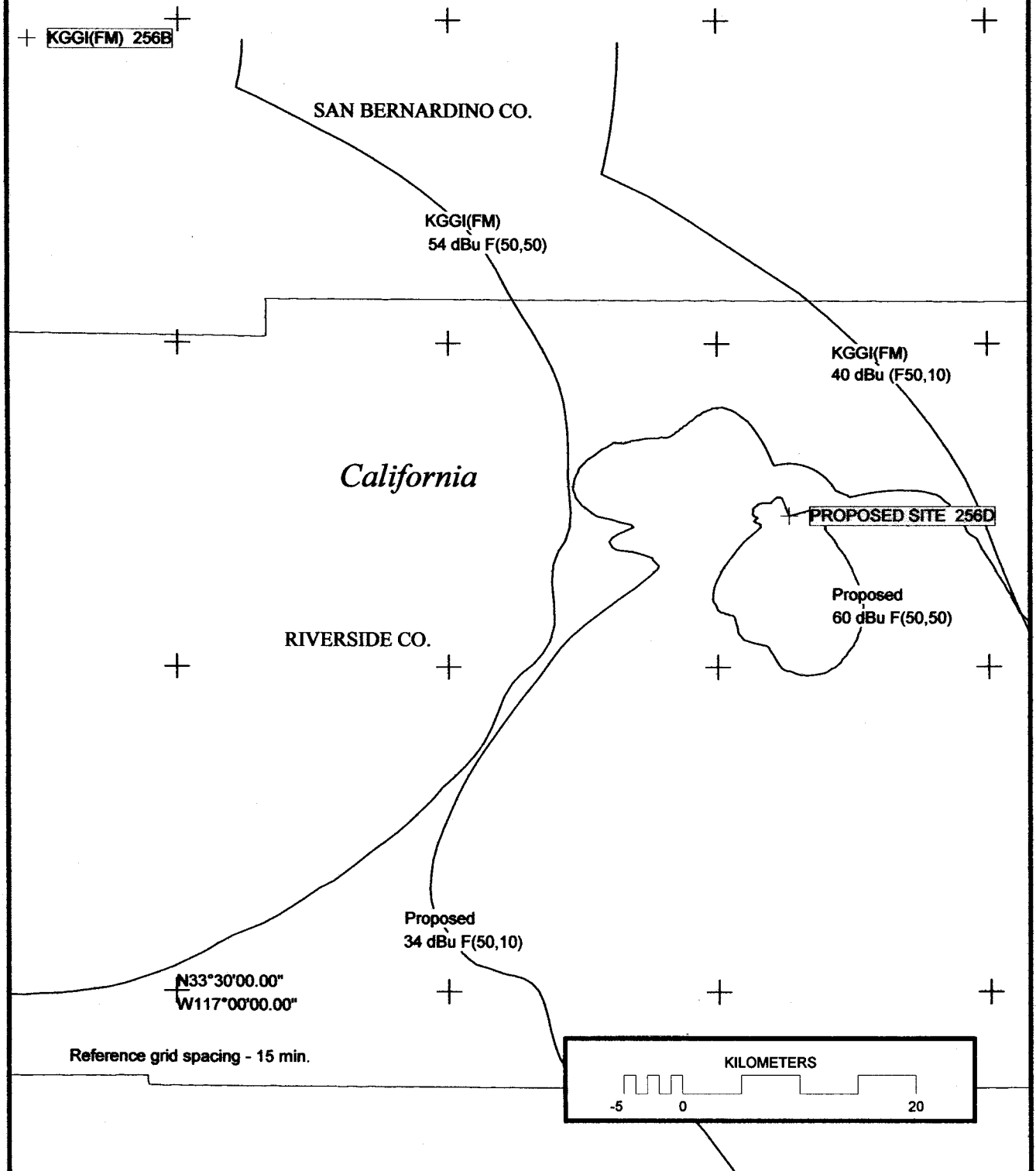
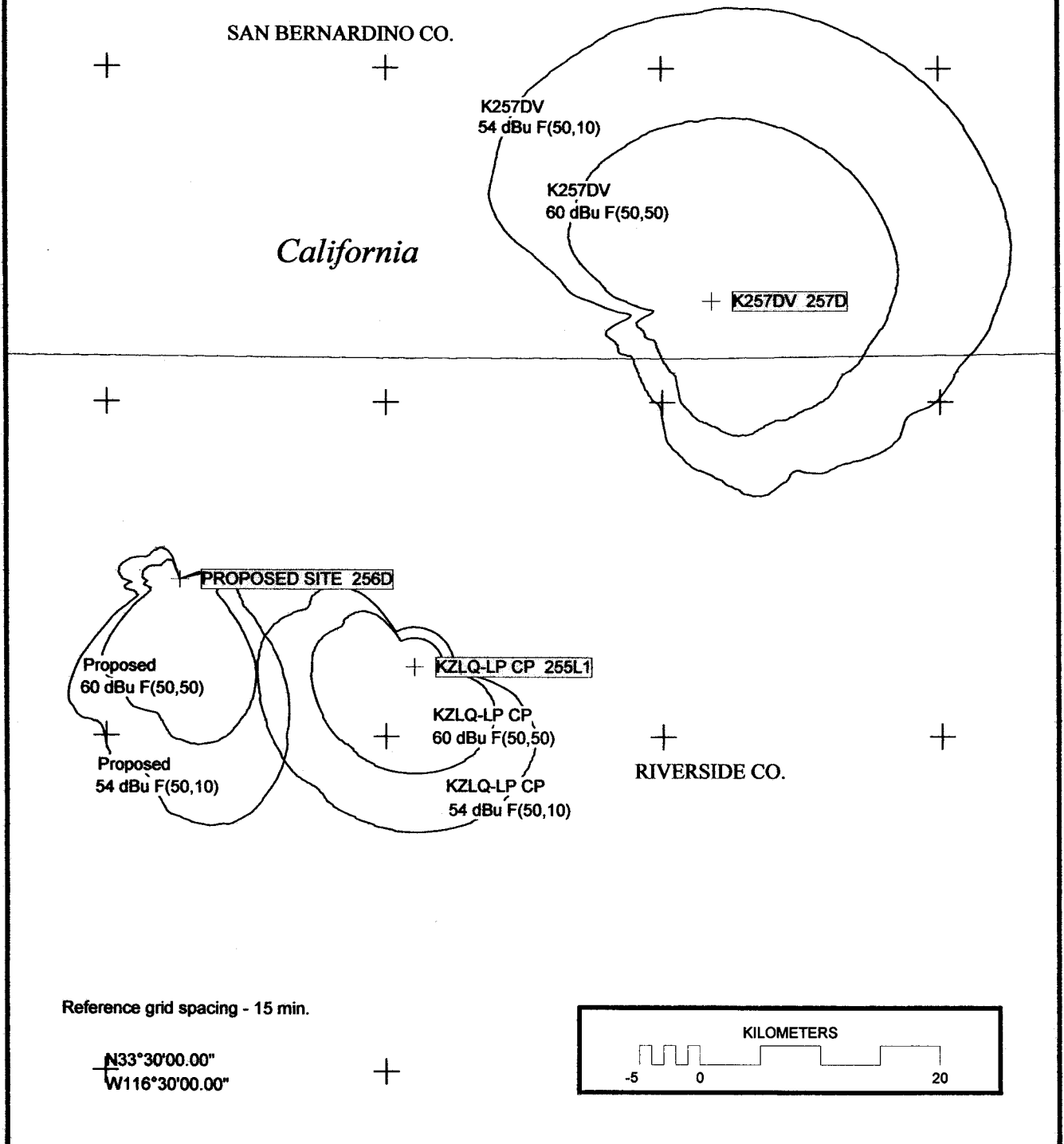
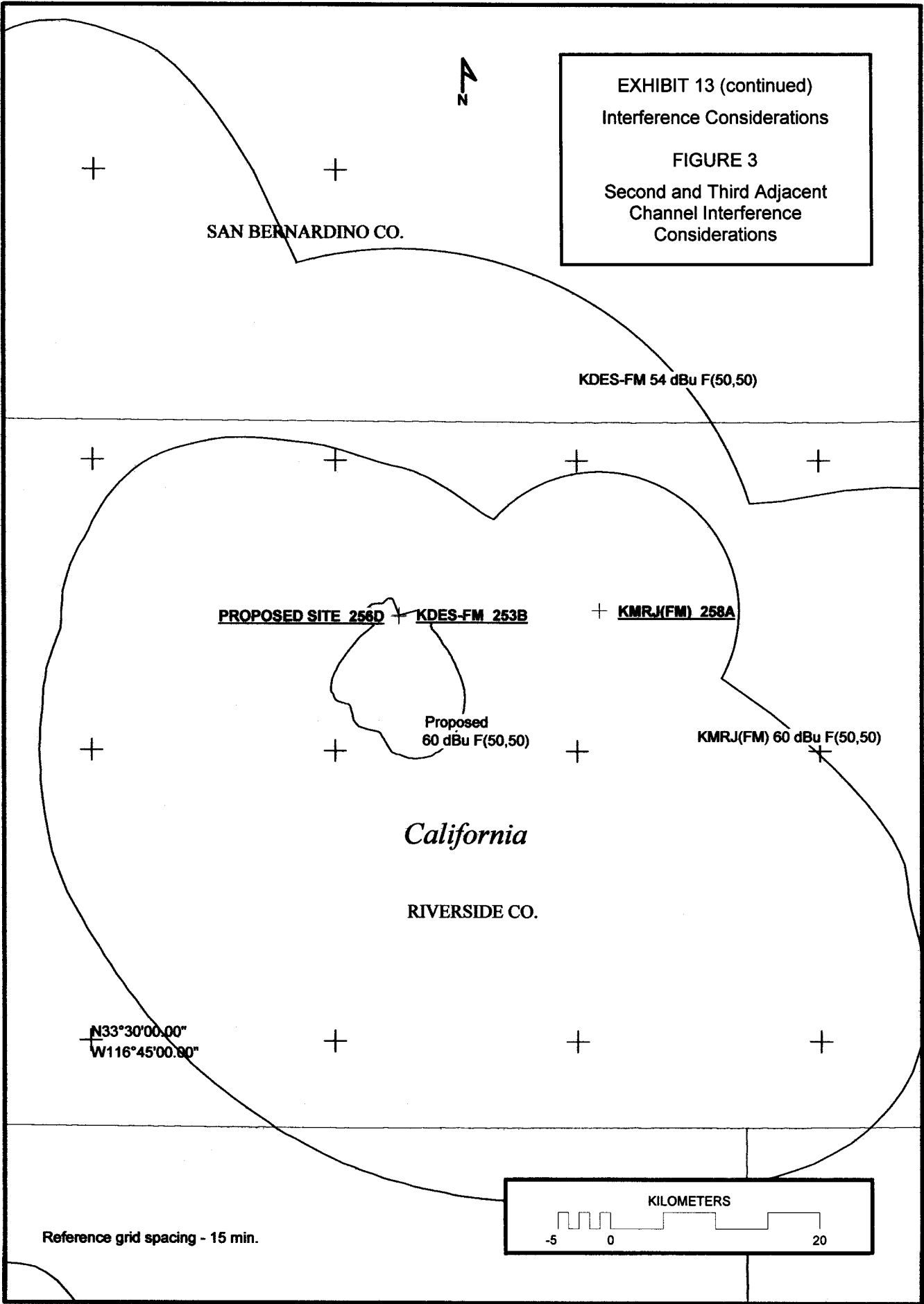


EXHIBIT 13 (continued)
Interference Considerations

FIGURE 2
First Adjacent Channel
Interference Considerations





STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
2751 IV NW
(SEVEN PALMS VALLEY)

EXHIBIT 13 (continued)
Interference Considerations

FIGURE 4
Second and Third Adjacent
Channel Interference
Considerations

