

## EXHIBIT 13

### Interference Considerations

#### Introduction

This application for modification of the facilities of FM Translator K210AD, Santa Barbara, California, requests a change in the location of the FM translator antenna to a nearby supporting structure, an increase in effective radiated power to 10 watts, and a different directional antenna radiation pattern.

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

North Latitude 34° 27' 56"  
West Longitude 119° 40' 38".

At this site the ground elevation is 652 meters above mean sea level. The height of the proposed translator antenna above ground is 7 meters.

The proposed operation of K210AD conforms with the requirements of Section 74.1204 of the Commission's Rules for a Class D station on Channel 210 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, and the third adjacent channels, as shown in this Exhibit. On the second adjacent channels, the proposed translator site is located within the predicted protected contour of two existing FM stations and one existing FM booster. This Exhibit demonstrates that, under Section 74.1204(d) of the Rules, no objectionable interference will be caused to the FM stations and the FM booster. The proposed FM translator therefore would not result in objectionable interference to any station.

#### Description of Directional Antenna System

The composite directional antenna system for the proposed operation of K210AD is comprised of two circularly polarized Scala Model CA2-FM/CP Antennas spaced 0.87-wavelength apart vertically, with one of the two-element Yagi antennas oriented to 210 degrees True and the other oriented to 310 degrees True (for a skew angle of 100 degrees), and with the two Yagi antennas driven in phase and with equal power. The antenna system will be side-mounted on an existing supporting structure, 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. The data was provided by the antenna manufacturer, Kathrein Inc., Scala Division, of Medford, Oregon.

### Allocation Study

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

Figure 1A of this Exhibit shows the pertinent predicted contours for the proposed FM translator and co-channel station KCRW(FM), Santa Monica, on Channel 210B. In Figure 1B of this Exhibit, the pertinent predicted contours are shown for the proposed FM translator and the licensed operation of FM Translator K210CH, Oak View, on Channel 210D, and also the authorized operation of this translator at Ventura on the same frequency; and the authorized operation of FM Translator K210EO, Santa Paula, on Channel 210D (all in California).

The pertinent predicted contours for the proposed FM translator and first-adjacent-channel station KCLM(FM), Santa Maria, California, on Channel 209B are shown in Figure 2 of this Exhibit.

Figure 3 of this Exhibit depicts the location of the proposed FM translator site with respect to the predicted protected contours for the nearby FM stations and FM booster on the second adjacent channels.

As shown in Figure 3, the proposed translator site is located within the 60 dBu F(50,50) contour for KMRO(FM), Camarillo, on Channel 212B. The proposed translator site is also within the 60 dBu F(50,50) contour for KSBX(FM), Santa Barbara, on Channel 208A; and within the 60 dBu contour of KMRO-FM2, Santa Barbara, on Channel 212D (all in California).

## EXHIBIT 13 (continued)

### Interference Considerations

The potential for interference from the proposed FM translator to KMRO(FM), KSBX(FM) and KMRO-FM2 was evaluated by determining the respective areas in which the ratio of undesired to desired signal between the proposed translator and KMRO(FM), KSBX(FM) and KMRO-FM2 equals or exceeds 40 dB, using free space propagation calculations for the translator signal.

The predicted F(50,50) signal of KMRO(FM) at the proposed FM translator site is 68.1 dBu, and interference would occur where the translator signal is 108.1 dBu (254 mV/m) or greater. Computations show that, for operation at 10 watts effective radiated power and assuming uniform radiation from the proposed translator in all directions in the horizontal plane, interference to KMRO(FM) would not extend beyond a distance of 87 meters from the translator antenna.

The distance between the proposed FM translator site and both KSBX(FM) and KMRO-FM2 is less than 0.10 kilometer. The predicted F(50,50) signal of both KSBX(FM) and KMRO-FM2 at the proposed translator site is at least 98 dBu, and interference would occur where the translator signal is 138 dBu (7943 mV/m) or greater. Computations show that, for operation at 10 watts effective radiated power and assuming uniform radiation from the proposed translator in all directions in the horizontal plane, interference to KSBX(FM) and KMRO-FM2 would not extend beyond a distance of 3 meters from the translator antenna.

The map of Figure 4 of this Exhibit is the most recent edition of the 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 0.087 kilometer from the proposed antenna system. The location is on a mountain top, and the surrounding area is mountainous land. There are no residences or other occupied buildings, and no accessible roads, located within this circle, aside from the buildings for the broadcast and communications facilities at the site. Although there are a few residences near the proposed site, none is closer than 0.25 kilometer. 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 KMRO(FM).

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There are no FM stations, LPFM stations or FM translators on the third adjacent channels that require consideration with respect to overlap of contours with the proposed operation of K210AD.

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 contours were calculated at azimuthal increments of one degree.

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Engineering Consultant

April 2014

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 | 210D              | Proposed K210AD, Santa Barbara, CA                                  | N 34° 27' 56"<br>W 119° 40' 38"   | 0.010 kW<br>Directional              | -----   |
|                     | 210D              | K210AD, Santa Barbara, CA<br>License<br>BLFT-19830509MG             | N 34° 27' 57"<br>W 119° 40' 37"   | 0.009 kW<br>Directional              | -----   |
|                     | 210B              | KCRW(FM), Santa Monica, CA<br>License<br>BLED-19810325AF            | N 34° 07' 08"<br>W 118° 23' 30"   | 6.9 kW<br>Nondirectional             | 338   |
|                     | 210D              | K210CH, Oak View, CA<br>License<br>BLFT-19981230TD                  | N 34° 22' 20"<br>W 119° 25' 31"   | 0.010 kW<br>Directional              | -----   |
|                     | 210D              | K210CH, Ventura, CA<br>Construction permit<br>BPFT-20110408ABX      | N 34° 17' 47"<br>W 119° 16' 20.6" | 0.010 kW<br>Directional              | -----   |
|                     | 210D              | K210EO, Santa Paula, CA<br>Construction permit<br>BMPFT-20130729APX | N 34° 19' 49"<br>W 119° 01' 26"   | 0.009 kW<br>Directional              | -----   |

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Interference Considerations

TABLE A (continued)

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) |
| First Adjacent Channel Station   | 209B              | KCLM(FM), Santa Maria, CA<br>License<br>BLED-20130612ABN    | N 34° 54' 37"<br>W 120° 11' 08" | 2.45 kW<br>Directional               | 569   |
| Second Adjacent Channel Stations | 208A              | KSBX(FM), Santa Barbara, CA<br>License<br>BLED-20030807AGF  | N 34° 27' 57"<br>W 119° 40' 37" | 0.050 kW<br>Directional              | 274   |
|                                  | 212B              | KMRO(FM), Camarillo, CA<br>License<br>BLED-201300719CYV     | N 34° 24' 41"<br>W 119° 10' 34" | 10.5 kW<br>Directional               | 324   |
|                                  | 212D              | KMRO-FM2, Santa Barbara, CA<br>License<br>BLFTB-20130920ADL | N 34° 27' 55"<br>W 119° 40' 37" | 1.20 kW<br>Directional               | -----   |

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Interference Considerations  
FIGURE 1A  
Co-Channel Interference  
Considerations

California

SANTA BARBARA CO.

KCRW(FM) 40 dBu F(50,10)

PROPOSED K210AD 210D

VENTURA CO.

KCRW(FM) 60 dBu F(50,50)

LOS ANGELES CO.

Proposed K210AD  
60 dBu F(50,50)

Proposed K210AD  
40 dBu F(50,10)

+ KCRW(FM) 210B

PACIFIC OCEAN

N34°00'00.00"  
W120°00'00.00"

Reference grid spacing - 30 min.

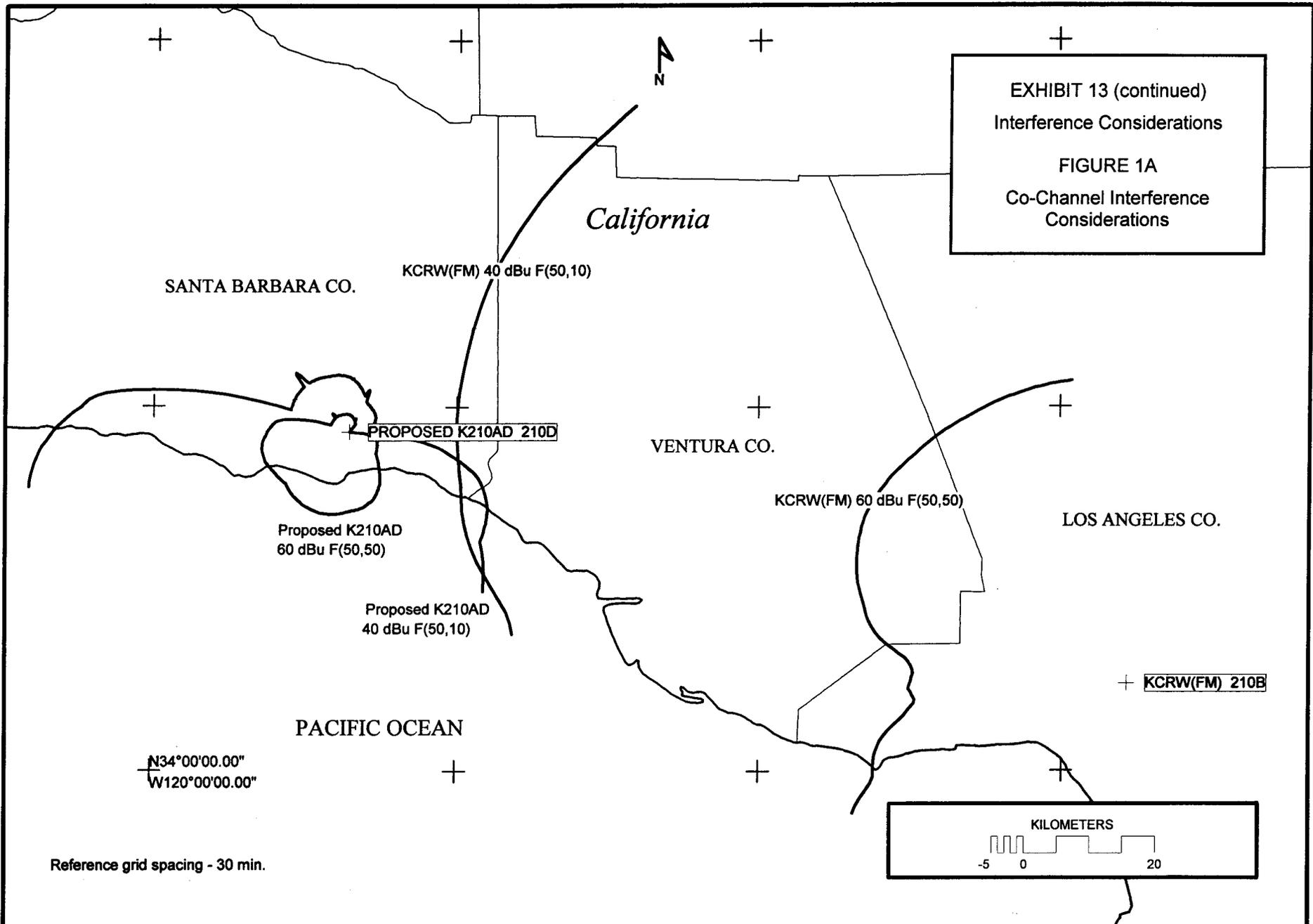
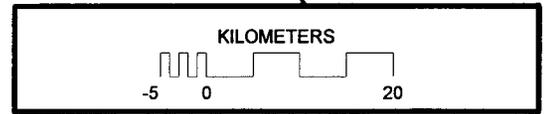


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Interference Considerations

FIGURE 1B  
Co-Channel Interference  
Considerations

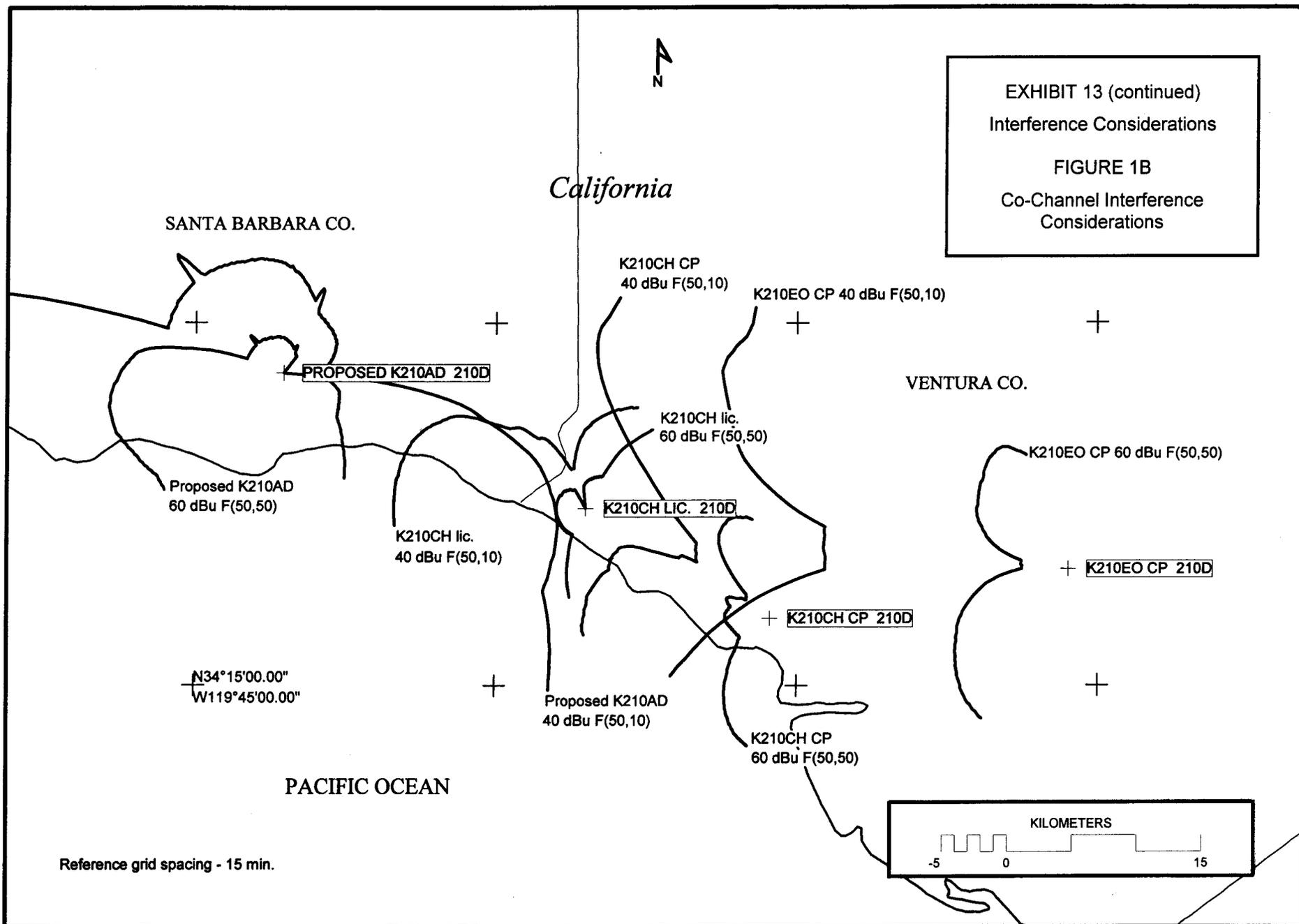


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Interference Considerations

FIGURE 2  
First Adjacent Channel  
Interference Considerations

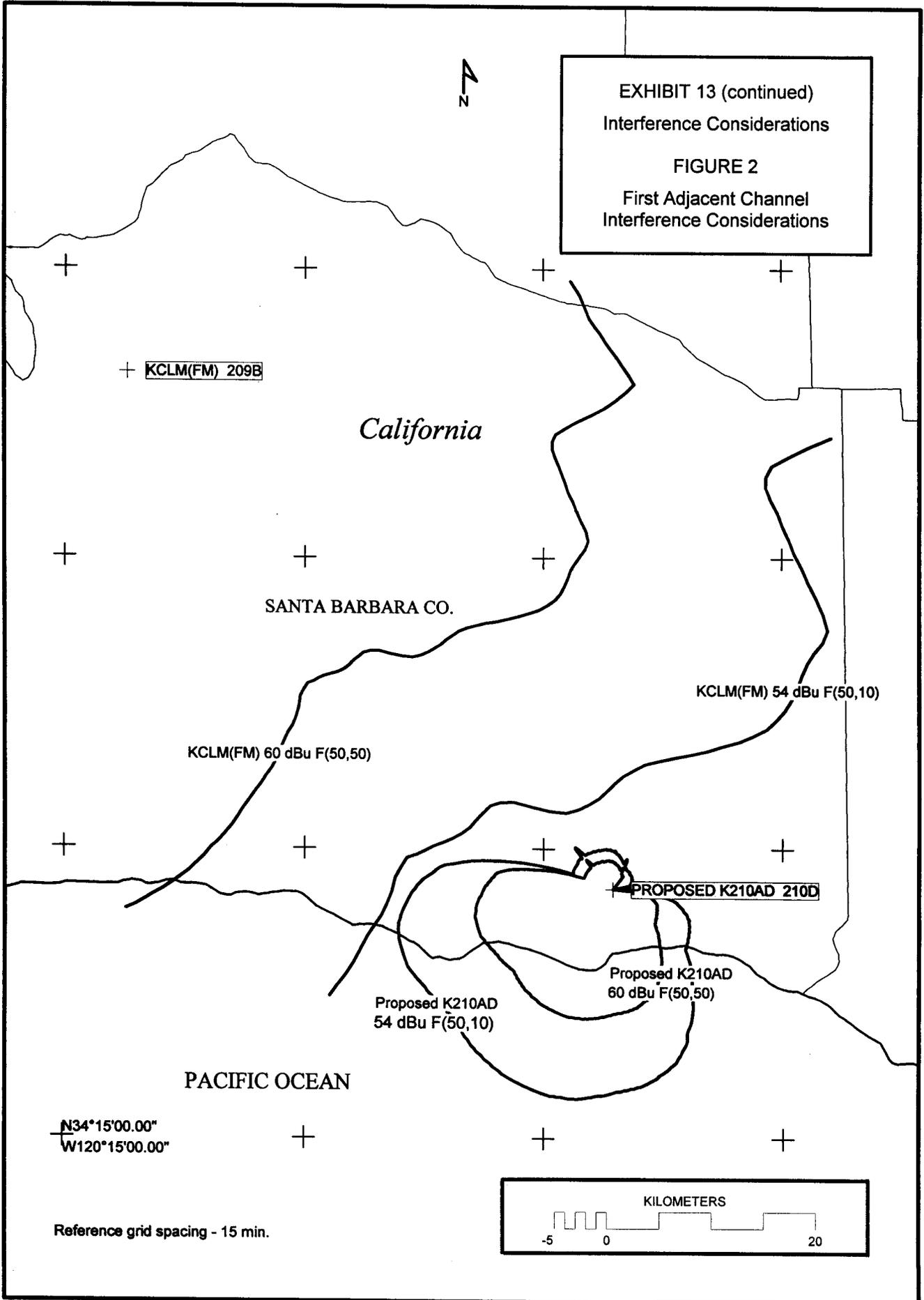
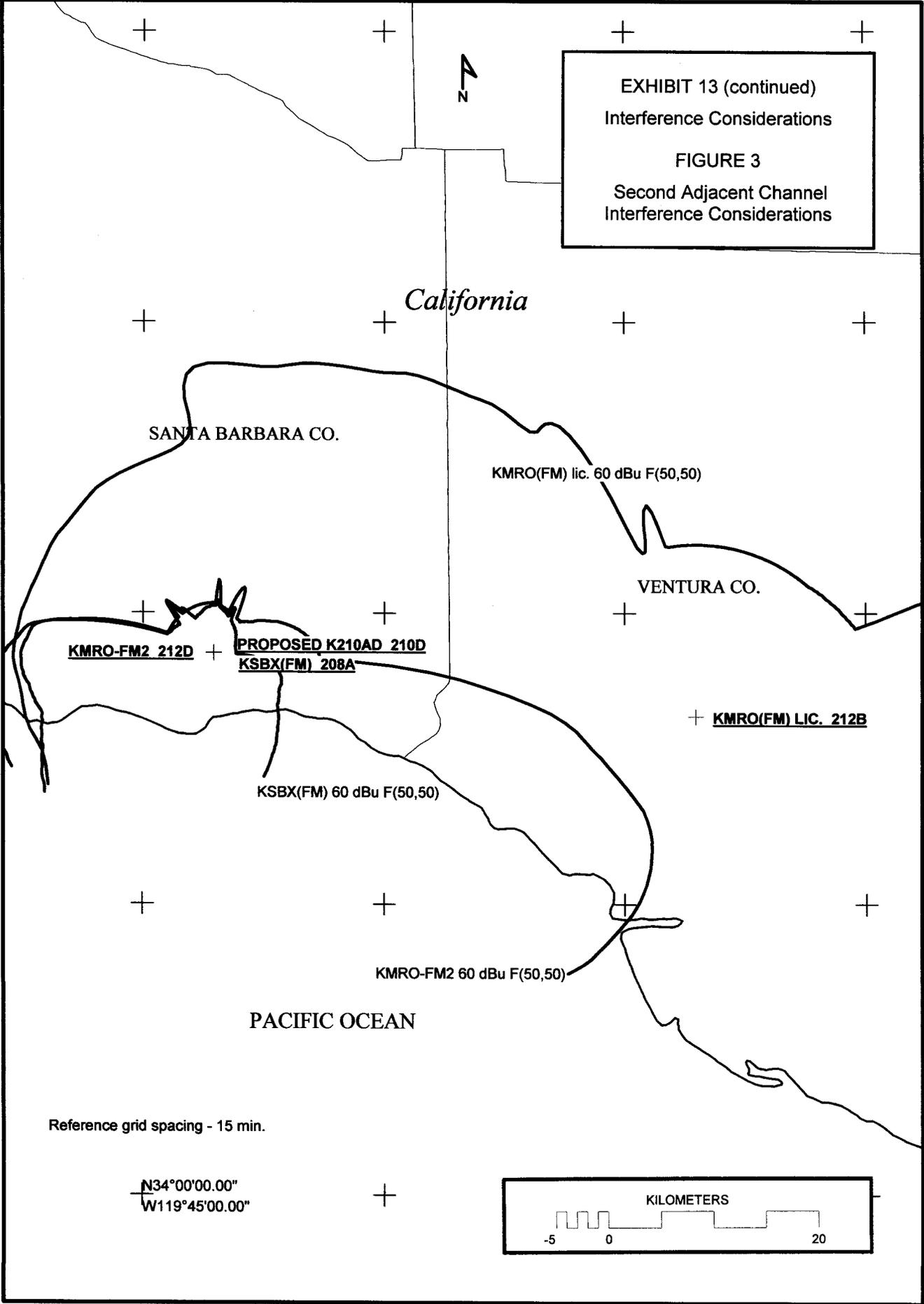


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**FIGURE 3**  
Second Adjacent Channel  
Interference Considerations





U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

42' 30"

252

253

254

255

40'

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FIGURE 4  
Second Adjacent Channel  
Interference Considerations

Map consists of portion of Santa Barbara, Calif. (1995), USGS 7-1/2 minute topographic quadrangle. Contour interval 50 feet.

N 34-28-00

W 119-42-00

0.087 km radius

PROPOSED K210AD 210D

Reference grid spacing - 1 min.

