

## EXHIBIT 14, Interference Considerations

### PART A

#### Allocation Studies

##### Statement

The allocation studies carried out for this application show that for the proposed daytime operation of KRLH, the stations listed below, along with the present operation of KRLH, represent all of the existing stations, construction permits and pending applications that require consideration with respect to the possibility of prohibited overlap of contours. Part A of this Exhibit provides information demonstrating that all the stations of interest would receive adequate protection from the proposed daytime operation of KRLH, and that there would be no prohibited contour overlap with any station with which such overlap does not presently occur.

##### Co-channel stations (590 kHz):

- KSUB, Cedar City, Utah
- KTHO, South Lake Tahoe, California

##### First adjacent channel stations

- KMJ, Fresno, California (580 kHz)
- KSAZ, Marana, Arizona (580 kHz)
- KOGO, San Diego, California (600 kHz)
- KVNA, Flagstaff, Arizona (600 kHz)

##### Second adjacent channel stations

- KLAC, Los Angeles, California (license) (570 kHz)
- KLAC, Los Angeles, California (construction permit) (570 kHz)
- KAVL, Lancaster, California (610 kHz)

##### Third adjacent channel stations

- No stations

Additionally, consideration was given to the notification of the daytime operation of XE, San Felipe, Baja Norte, Mexico, on 580 kHz, notwithstanding the Commission's objection to this notification.

## EXHIBIT 14, PART A (continued)

### Allocation Studies

Values of unattenuated field strength at one kilometer were obtained from data contained in the Commission's files for stations operating with a non-directional antenna, and from the daytime standard radiation pattern or daytime modified standard radiation pattern on file with the Commission for stations operating with a directional antenna system. The facilities of the stations requiring consideration are listed in Table A of this Statement.

Except as noted in this Statement, ground conductivity values in the United States were obtained from a computerized version of FCC Figure M-3. Field strength measurements of KRLH and KAVL were made for this application for the purpose of determining values of effective ground conductivity; the data and analysis for these measurements is contained in Part B of this Exhibit.

Additionally, field strength measurement data submitted to the Commission in previously filed applications and directional antenna proof-of-performance reports was utilized for determining values of effective ground conductivity as appropriate. Tables B through G of this Statement provide the sources of the field strength measurement data that was used, and show how the data was applied in the allocation studies for this application. The information table for each station lists the azimuths along which the field strength measurements were made; and for each such azimuth, the sector over which the field strength measurement data was assumed to prevail, the values of measured effective ground conductivity and the corresponding distances, and the source or document from which the field strength measurement data was obtained. Measured values of effective ground conductivity were assumed to be applicable over an angular sector of up to plus and minus 10 degrees from the azimuth along which the field strength measurements were made, depending upon the availability of field strength measurement data for adjacent radials.

Values of ground conductivity in Mexico were derived from Appendix 1 of Annex 2 of the "U.S.-Mexico AM Agreement, 1986." The ground conductivity values used for determining the location of the contour of XE, San Felipe, B.N., Mexico, are listed in Table H of this Statement.

## EXHIBIT 14, PART A (continued)

### Allocation Studies

Contours were located by computerized methods utilizing the “equivalent distance” method of computation where more than one value of ground conductivity was encountered, employing effective ground conductivity values derived from available field strength measurement data, with the exceptions noted in this paragraph. For the licensed daytime operation of KLAC, the 5 mV/m contour was determined entirely from information contained in the application for modification of the KLAC daytime facilities, File Number BP-19971126AG, on the assumption that the determination of the contour location was deemed acceptable when the Commission granted the KLAC application. Also, because of the relatively great distances between the proposed KRLH site and KTHO, KVNA and KSAZ, it was assumed that any field strength measurement data for these stations contained in the Commission’s files would not have a significant effect on the allocation studies for the application. A uniform ground conductivity of 4 mS/m, derived from FCC Figure M-3, was assumed for the computations for the 1000 mV/m contour for the proposed daytime operation of KRLH. Contours of stations in the United States were calculated at azimuthal increments of one degree.

Additional computations for the daytime 0.5 mV/m contour for the proposed operation of KRLH toward the daytime 0.5 mV/m contour of XE, San Felipe, B.N., Mexico, were made based on the exclusive use of the ground conductivity values of FCC Figure M-3. The location of the proposed daytime 0.5 mV/m contour determined in this manner over the pertinent sector would not differ appreciably from that shown in Figure 2C of Part A of this Exhibit, and would not extend over any portion of Mexico (including offshore islands). The daytime 0.25 mV/m contour of XE, San Felipe, B.N., Mexico, was calculated at azimuthal increments of five degrees.

Figure 1 of Part A of this Exhibit shows the relationship of the daytime contours to be considered with respect to co-channel interference, for the proposed operation of KRLH and for KSUB and KTHO.

The relationship of the daytime contours to be considered with respect to first adjacent channel interference are shown in Figures 2A and 2B of Part A of this Exhibit for the present and the proposed operation of KRLH and for KOGO; and in Figure 2C of this Exhibit for the proposed operation of KRLH and for KMJ, KVNA, KSAZ and XE, San Felipe, B.N., Mexico.

## EXHIBIT 14, PART A (continued)

### Allocation Studies

Figure 3 of Part A of this Exhibit shows the relationship of the daytime contours to be considered with respect to second adjacent channel interference, for the proposed operation of KRLH and for KLAC (license and construction permit) and KAVL.

The proposed daytime operation of KRLH would not result in prohibited overlap of contours with any station except KOGO, where such overlap already exists. Exhibit 13 of this application refers to Figures 2A and 2B of Part A of this Exhibit to demonstrate that the proposed operation would result in a small reduction of the existing areas of contour overlap caused to and received from KOGO over that from the present operation of KRLH.

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Sierra Madre, California

## PART A (continued)

## Allocation Studies

TABLE A

## Broadcast Station Facilities

Frequency	Call Letters, Location, Status	File Number or Other Source of Data	Geographical Coordinates	Daytime Power	Daytime Antenna
590 kHz	Proposed KRLH, San Bernardino, CA	New Application	N 34° 04' 20" <u>/1</u> W 117° 17' 52" <u>/1</u>	2.0 kW	Directional
	KRLH, San Bernardino, CA (License)	BML-20010621AAQ	N 34° 04' 20" <u>/1</u> W 117° 17' 52" <u>/1</u>	1.0 kW	Directional (augmented pattern)
570 kHz	KLAC, Los Angeles, CA (License)	FCC Files	N 34° 04' 11" W 118° 11' 36"	5.0 kW	Non-directional
	KLAC, Los Angeles, CA (Construction Permit)	BP-19971126AG	N 34° 06' 50" W 117° 59' 51"	50 kW	Directional
580 kHz	KMJ, Fresno, CA (License)	BL-20011108AAQ	N 36° 39' 33" W 119° 20' 47"	50 kW	Directional (augmented pattern)
	KSAZ, Marana, AZ (License)	BL-20010418ABK	N 32° 27' 11" W 111° 17' 04"	5.0 kW	Non-directional
	XE, San Felipe, B.N., Mexico (Notification)	FCC Files	N 31° 03' 48" W 114° 50' 10"	10 kW	Non-directional
590 kHz	KSUB, Cedar City, UT (License)	BL-19790404AI	N 37° 41' 55" W 113° 10' 44"	5.0 kW	Non-directional
	KTHO, South Lake Tahoe, CA (License)	BL-19800130AC	N 38° 55' 00" W 119° 57' 46"	2.5 kW	Non-directional
600 kHz	KOGO, San Diego, CA (License)	FCC Files	N 32° 43' 17" W 117° 04' 11"	5.0 kW	Directional (augmented pattern)
	KVNA, Flagstaff, AZ (License)	BL-19971007KA	N 35° 12' 02" W 111° 36' 49"	1.0 kW	Non-directional
610 kHz	KAVL, Lancaster, CA (License)	BL-19970612AA	N 34° 42' 22" W 118° 10' 36"	4.9 kW	Directional (augmented pattern)

/1 Corrected geographical coordinates.

## EXHIBIT 14, PART A (continued)

## Allocation Studies

TABLE B

Field Strength Measurement Data Used for KRLH

Radial (degrees True)	Azimuthal Sector (degrees)	Measured Effective Ground Conductivity Values	Source of Data
0	350 - 10	5 mS/m to 16.8 km 2 mS/m to 41.2 km	New
20	10 - 20 <u>/1</u>	5 mS/m to 11.1 km	Note 1
30	20 - 40	5 mS/m to 10.6 km 3 mS/m to 24.3 km 1.5 mS/m to 98.0 km	New
45	None <u>/1</u>		Note 1
50	40 - 60	5 mS/m to 12.3 km 2 mS/m to 25.9 km 1.5 mS/m to 87.5 km	New
60.5	None <u>/1</u>		Note 1
70	60 - 80	4 mS/m to 15.2 km 2 mS/m to 38.0 km 1.5 mS/m to 57.5 km 1 mS/m to 89.0 km	New
90	80 - 100	2 mS/m to 4.01 km 5 mS/m to 15.2 km 3 mS/m to 26.0 km	New
92	100 - 102 <u>/1</u>	2 mS/m to 17.7 km	Note 1
130.5	120.5 - 135.2	4 mS/m to 34.1 km	Note 1
140	135.2 - 150.0	3 mS/m to 25.7 km	Note 1
200	190 - 210	5 mS/m to 30.6 km	Note 1
240	230 - 250	3 mS/m to 32.2 km	Note 1
269.5	259.5 - 279.5	3 mS/m to 33.8 km	Note 1
333	323 - 330 <u>/1</u>	3 mS/m to 32.2 km	Note 1
340	330 - 350	5 mS/m to 15.7 km 2 mS/m to 40.6 km	New

EXHIBIT 14, PART A (continued)

Allocation Studies

TABLE B (continued)

Field Strength Measurement Data Used for KRLH

/1 Field strength measurement data for this radial partially or entirely superseded by more extensive field strength measurement data obtained on adjacent radial.

Note 1: KRLH (formerly KFXM) directional antenna proof-of-performance dated January 5, 1948, submitted with license application File Number BL-2390.

Measured values of effective ground conductivity shown in above table were utilized for KRLH clockwise study sector from 0° T. to 360° T.

EXHIBIT 14, PART A (continued)

Allocation Studies

TABLE C

Field Strength Measurement Data Used for  
KLAC Construction Permit

Radial (degrees True)	Azimuthal Sector (degrees)	Measured Effective Ground Conductivity Values	Source of Data
14	9.5-17	2 mS/m to 1.87 km 10 mS/m to 4.15 km 5 mS/m to 5.58 km	Note 1
20	17 - 30	3 mS/m to 2.03 km 10 mS/m to 4.28 km 5 mS/m to 5.52 km	Note 1
51	41 - 55.5	4 mS/m to 4.54 km 5 mS/m to 6.12 km	Note 1
60	55.5 - 70	3 mS/m to 16.65 km 1.5 mS/m to 20.88 km	Note 2
90	80 - 95	3 mS/m to 8.08 km 4 mS/m to 32.2 km	Note 1
100	95 - 105	4 mS/m to 11.78 km 6 mS/m to 32.2 km	Note 1
110	105 - 112.5	3 mS/m to 6.29 km 4 mS/m to 16.01 km 6 mS/m to 31.4 km	Note 1
115	112.5 - 122.5	6 mS/m to 11.95 km 8 mS/m to 31.42 km	Note 2
130	122.5 - 140	3 mS/m to 8.22 km 6 mS/m to 27.2 km	Note 1
150	140 - 160	4 mS/m to 7.26 km 6 mS/m to 19.2 km 7 mS/m to 34.0 km	Note 1

Note 1: Non-directional field strength measurements for KSPN (formerly KRLA) directional antenna proof-of-performance dated October 31, 1986, submitted as an amendment to license application File Number BL-19820514AU.

Note 2: Non-directional field strength measurements for KSPN (formerly KRLA) nighttime directional antenna proof-of-performance dated January 13, 1988, submitted with license application File Number BL-19880120AE.

Measured values of effective ground conductivity shown in above table were utilized for KLAC construction permit study sector from 22° T. to 149° T.



EXHIBIT 14, PART A (continued)

Allocation Studies

TABLE D

Field Strength Measurement Data Used for KMJ

Radial (degrees True)	Azimuthal Sector (degrees)	Measured Effective Ground Conductivity Values	Source of Data
79.5	69.5 - 89.5	5 mS/m to 16.39 km	Note 1
125	115 - 135	20 mS/m to 17.83 km	Note 1
145	135 - 145	40 mS/m to 17.25 km	Note 1
210	200 - 220	40 mS/m to 16.24 km	Note 1

Note 1: KMJ directional antenna proof-of-performance dated October 16, 2001, submitted with license application File Number BL-20011108AAQ.

Measured values of effective ground conductivity shown in above table were utilized for KMJ study sector from 65° T. to 208° T.

EXHIBIT 14, PART A (continued)

Allocation Studies

TABLE E

Field Strength Measurement Data Used for KSUB

Radial (degrees True)	Azimuthal Sector (degrees)	Measured Effective Ground Conductivity Values	Source of Data
168	158 - 178	10 mS/m to 10.7 km	Note 1
200	190 - 205	30 mS/m to 11.3 km 4 mS/m to 26.2 km 2 mS/m to 90.1 km	Note 2
210	205 - 214.75	30 mS/m to 11.1 km 3 mS/m to 91.7 km	Note 2
219.5	214.75 - 222	30 mS/m to 10.1 km 2 mS/m to 104.3 km	Notes 2 and 3
224.5	222 - 227	30 mS/m to 10.5 km 3 mS/m to 44.3 km 2 mS/m to 191.6 km 3 mS/m to 288.9 km	Note 3
229.5	227 - 234.75	30 mS/m to 10.8 km 4 mS/m to 26.6 km 2 mS/m to 172.5 km	Notes 2 and 3
240	234.75 - 245	30 mS/m to 5.8 km 3 mS/m to 177.0 km 2 mS/m to 249.8 km	Note 2
250	245 - 260	30 mS/m to 13.7 km 3 mS/m to 23.8 km 2 mS/m to 173.2 km	Note 2
270	260 - 280	5 mS/m to 47.0 km	Note 1

Note 1: Non-directional field strength measurements for KSUB nighttime directional antenna proof-of-performance dated February 24, 1950, submitted with license application File Number BL-4001.

Note 2: KSUB amendment dated June 8, 1977, to application for 5 kW daytime power, File Number BP-20,734.

Note 3: KSUB application for 5 kW daytime power dated December 30, 1976, File Number BP-20,734.

Measured values of effective ground conductivity shown in above table were utilized for KSUB study sector from 175° T. to 290° T.

EXHIBIT 14, PART A (continued)

Allocation Studies

TABLE F

Field Strength Measurement Data Used for KOGO

Radial (degrees True)	Azimuthal Sector (degrees)	Measured Effective Ground Conductivity Values	Source of Data
23	13 - 33	10 mS/m to 17.1 km	Note 1
48	38 - 58	10 mS/m to 22.4 km	Note 1
339	329 - 348.5	10 mS/m to 26.4 km	Note 1
358	348.5 - 08	8 mS/m to 31.2 km	Note 1

Note 1: KOGO directional antenna proof-of-performance dated March 4, 1965, submitted with application for direct measurement of power.

Measured values of effective ground conductivity shown in above table were utilized for KOGO clockwise study sector from 320° T to 42° T.

TABLE G

Field Strength Measurement Data Used for KAVL

Radial (degrees True)	Azimuthal Sector (degrees)	Measured Effective Ground Conductivity Values	Source of Data
120	110 - 130	10 mS/m to 18.15 km 7 mS/m to 44.5 km 5 mS/m to 58.9 km	Note 1 and New

Note 1: KAVL directional antenna proof-of-performance dated June 10, 1997, submitted with license application File Number BL-19970612AA.

Measured values of effective ground conductivity shown in above table were utilized for KAVL study sector from 85° T. to 150° T.

EXHIBIT 14, PART A (continued)

Allocation Studies

TABLE H

Ground Conductivity Values Assumed for  
XE, San Felipe, B.N., Mexico

Azimuth (degrees True)	Ground Conductivity Values <u>/1</u>
310	6 mS/m, 48 km; 4 mS/m, 91 km; 5 mS/m
315	6 mS/m, 49 km; 4 mS/m, 89 km; 5 mS/m, 102 km; 8 mS/m
320	6 mS/m, 50 km; 4 mS/m, 82 km; 20 mS/m, 92 km; 4 mS/m, 52 km; 8 mS/m
325	5000 mS/m, 10 km; 6 mS/m, 18 km; 20 mS/m, 29 km; 4 mS/m, 67 km; 20 mS/m, 88 km; 4 mS/m
330	5000 mS/m, 11 km; 6 mS/m, 14 km; 20 mS/m, 38 km; 4 mS/m, 35 km; 20 mS/m, 105 km; 4 mS/m
335	5000 mS/m, 14 km; 6 mS/m, 9 km; 20 mS/m, 46 km; 4 mS/m, 17 km; 20 mS/m, 109 km; 4 mS/m, 12 km; 15 mS/m, 107 km; 2 mS/m
340	5000 mS/m, 17 km; 6 mS/m, 5 km; 20 mS/m, 170 km; 15 mS/m, 132 km; 2 mS/m, 34 km; 8 mS/m
345	5000 mS/m, 21 km; 20 mS/m, 166 km; 15 mS/m, 139 km; 8 mS/m
350	5000 mS/m, 34 km; 20 mS/m, 150 km; 15 mS/m, 144 km; 8 mS/m

/1 Ground conductivity values derived from Appendix 1 of Annex 2 of "U.S.-Mexico AM Agreement, 1986," and FCC Figure M-3.