

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
RADIO STATION KMLT(FM)  
THOUSAND OAKS, CALIFORNIA

January 5, 2004

CH 224A 3.1 KW 141 M

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
RADIO STATION KMLT(FM)  
THOUSAND OAKS, CALIFORNIA  
CH 224A 3.1 KW 141 M

Table of Contents

	Technical Statement
Figure 1	Technical Specifications
Figure 2	Proposed Antenna and Supporting Structure
Figure 3	Tabulation of Average Elevations and Distances to Coverage Contours
Figure 4	Predicted Coverage Contours
Figure 5	Allocation Study
Figure 6	Calculated RF Exposure Analysis
Appendix	Vertical Plane Radiation Pattern for Proposed Transmitting Antenna

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
RADIO STATION KMLT(FM)  
THOUSAND OAKS, CALIFORNIA  
CH 224A 3.1 KW 141 M

Technical Statement

This Technical Exhibit was prepared on behalf of radio station KMLT(FM), Thousand Oaks, California in support of an application for modification of construction permit to relocate its transmitter site (See FCC File No. BPH-20010620AAD). The purpose of the instant modification application is to relocate the proposed KMLT(FM) transmitter site to a new site known as Oakbrook Reservoir.

Proposed Facilities

The proposed facility will operate on Channel 224A with a nominal non-directional effective radiated power (ERP) of 3.1 kW (circular polarization) and an antenna height above average terrain (HAAT) of 141 m. The proposed transmitter site is located 9.0 km northeast of the KMLT(FM) licensed transmitter site and 1.3 km east-northeast of the KMLT(FM) construction permit transmitter site.

The proposed antenna will be mounted on a new 13.4-m pole to be erected within the confines of the Oakbrook Reservoir property, which is located in Thousand Oaks. The KMLT(FM) transmitting antenna is a Dielectric, model DCRH-1T 1-bay antenna. This antenna will be top-mounted on the pole, which will result in an overall antenna structure height of 14.7 m (rounded to 15 m). The antenna radiation center will be located at 15 m above ground level, or 478 m above mean sea level.

Radio Station KMLT(FM)  
Thousand Oaks, California

Page 2

The proposed site is to be located 1.2 km from the licensed AM broadcast antenna system of KIIS(AM), Thousand Oaks, California (850 kHz, 0.25 kW-N, 0.5 kW-D, U, DA-2). The proposed facility will have no meaningful effect on the KIIS(AM) antenna patterns due to the distance from the array and the very short electrical height (15.3° at 850 kHz) of the antenna structure. Therefore, it will not be necessary to employ any detuning apparatus for the proposed antenna structure. However, the applicant will comply with Section 73.1692 concerning broadcast tower installations nearby to AM directional antennas as it relates to KIIS(AM).

#### Environmental Considerations

The proposal is categorically excluded from environmental processing since it meets the requirements of Section 1.1306(b)(1) of the FCC Rules;<sup>\*</sup> it does not involve any obstruction lighting as concerns Section 1.1306(b)(2) of the FCC Rules; and, it complies with the requirements concerning human exposure to radio frequency (RF) energy pursuant to Section 1.1306(b)(3) of the FCC Rules.

With respect to RF exposure, the maximum permissible distance was calculated pursuant to the procedures of FCC OET Bulletin No. 65<sup>†</sup> for the KMLT(FM) facility such that the exposure limit for an uncontrolled / general population environment would be met. This distance was calculated to be 32-m using the worst-case assumption of 6.4 kW total ERP. The proposed transmitting antenna is situated such that it will be located more than 32-m from the closest point to the outer boundary of the Oakbrook

---

<sup>\*</sup> An environmental evaluation of the proposal was conducted by the TynanGroup, Inc., Santa Barbara, CA, which determined compliance with the requirements of Section 1.1306(b)(1) of the FCC Rules.

<sup>†</sup> Federal Communications Commission OET Bulletin No. 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01, August 1997).

Radio Station KMLT(FM)  
Thousand Oaks, California

Page 3

Reservoir property in any direction. The outer boundary of the Oakbrook Reservoir property is to be fenced and access will be controlled and properly marked with warning signs.

Within the fenced area within the confines of the Oakbrook Reservoir property, calculations pursuant to the procedures of OET Bulletin No. 65 indicate that the RF energy at 2-m above ground will not exceed the RF exposure limits for controlled / occupational environments. Figure 6 is a graph showing the results of the RF exposure analysis along the worst-case radial from the KMLT(FM) antenna to the east where the terrain steadily rises from the transmitter site. The Appendix herein contains the proposed transmitting antenna elevation pattern. Based on these results, it is concluded that the area within the confines of the Oakbrook Reservoir meets the controlled / occupational environmental RF exposure requirements. Personnel that enter the confines of the Oakbrook Reservoir shall be properly notified of the potential for exposure so that they may exercise control over their exposure.

In the event that personnel are required to climb the proposed KMLT(FM) antenna structure, the KMLT(FM) transmissions shall be reduced or terminated as necessary to prevent RF exposure above the FCC recommended limits.

#### Predicted Coverage Contours

The predicted coverage contours were calculated in accordance with Section 73.313 of the FCC Rules. The average terrain elevations from 3 to 16 km from the proposed site were computed using the U.S.G.S. 3-second terrain database. Radials evenly-spaced at 10-degree intervals were used in determining the overall antenna HAAT. The distances to the predicted coverage contours were determined using the average elevations of radials spaced every 10-degrees of azimuth. The antenna radiation center HAAT in each radial direction and the ERP were used in conjunction with the propagation prediction curves of Section 73.333 to determine the distances to contours.

Radio Station KMLT(FM)  
Thousand Oaks, California

Page 4

Figure 3 is a tabulation of average elevations and distances to coverage contours.

Figure 4 is a map showing the predicted coverage contours.

As indicated in Figure 4, the proposed predicted 70 dBu contour will not encompass the entire community of Thousand Oaks. The city limits of Thousand Oaks were obtained from the 2000 Census TIGER data files. The Thousand Oaks city limits enclose an area of 142.5 sq. km. The proposed KMLT 70 dBu contour encompasses 142.4 sq. km of Thousand Oaks, which is 99.9% of the total area. Thus, the proposed KMLT(FM) facility will provide greater than 80% coverage of the Thousand Oaks city limits in substantial compliance with Section 73.315 of the FCC Rules.

#### Allocation Considerations

As outlined in Figure 5, the proposed facility meets the separation requirements of Section 73.207 of the FCC Rules with respect to all pertinent allotments and assignments with the exception of that involving the KLIT(FM) licensed facility. However, the proposed KMLT(FM) facility meets the separation requirements with respect to the KLIT(FM) construction permit facility. The KLIT(FM) construction permit facility has been constructed with an application for license pending.

Louis Robert du Treil, Jr.

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Ave.  
Sarasota, Florida 34237-6019

January 5, 2004

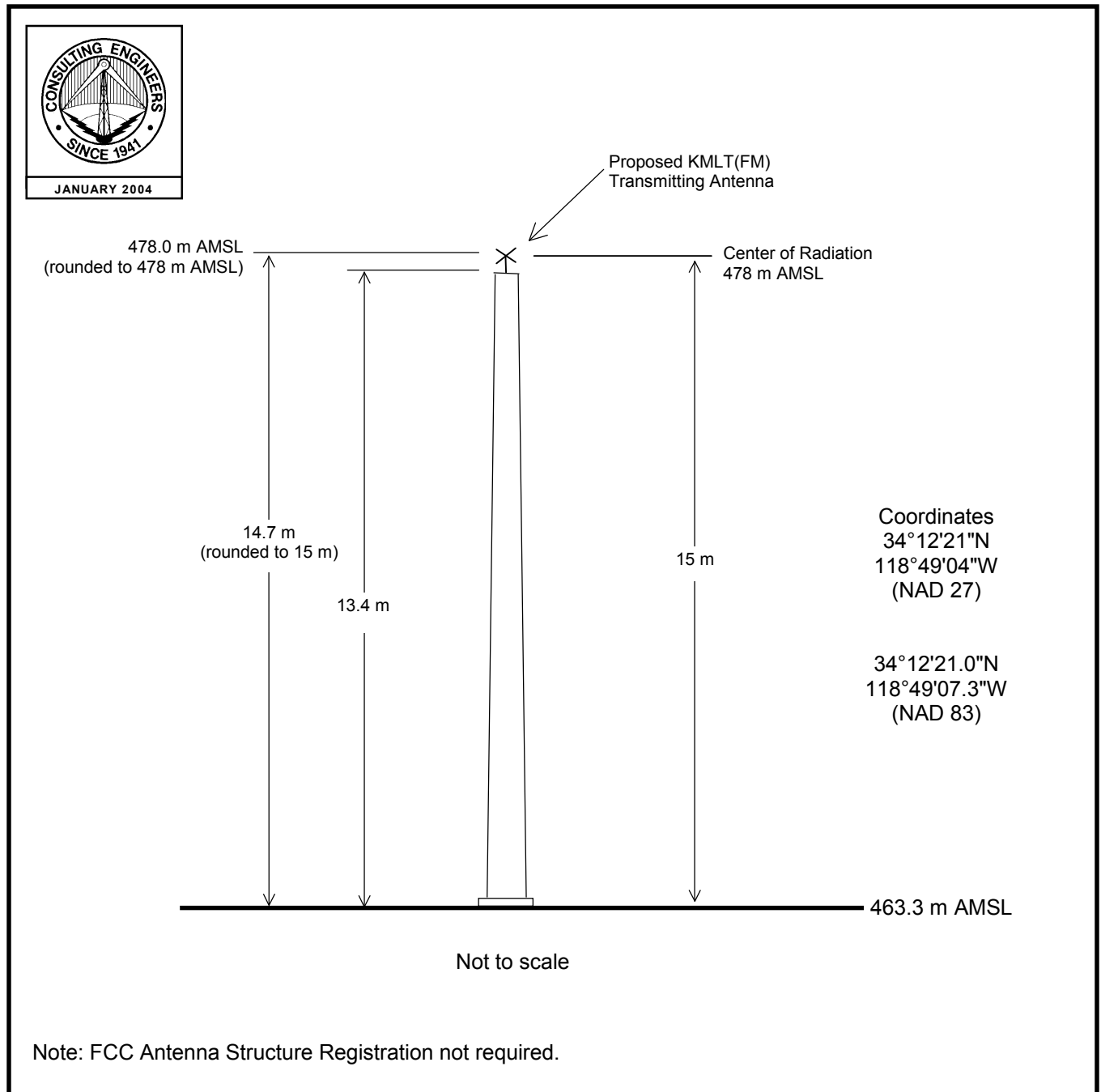
Figure 1

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
RADIO STATION KMLT(FM)  
THOUSAND OAKS, CALIFORNIA  
CH 224A 3.1 KW 141 M

Technical Specifications

Channel / Frequency	224A / 92.7 MHz
Site Coordinates (NAD 27)	34°12'21"North Latitude 118°49'04"West Longitude
Site elevation	463.3 m AMSL
Average elevation of <u>36</u> evenly spaced radials, 3 to 16 km	327 m AMSL
Overall height of proposed structure	14.7 m AGL / 478.0 m AMSL
Height of antenna radiation center	15 m AGL / 478 m AMSL
Antenna radiation center HAAT	141 m
Transmitter	as required
Transmitter power output	7.1 kW
Transmission line	Andrew, HJ5-50A
Transmission line length	30 m
Transmission line efficiency	95.0%
Antenna	Dielectric, DCR-MT1
Polarization	Circular
Power gain	0.46
Antenna input power	6.74 kW
Effective radiated power (H & V)	3.1 kW

Figure 2



## PROPOSED ANTENNA AND SUPPORTING STRUCTURE

RADIO STATION KMLT(FM)

THOUSAND OAKS, CALIFORNIA

CH 224A 3.1 KW 141 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

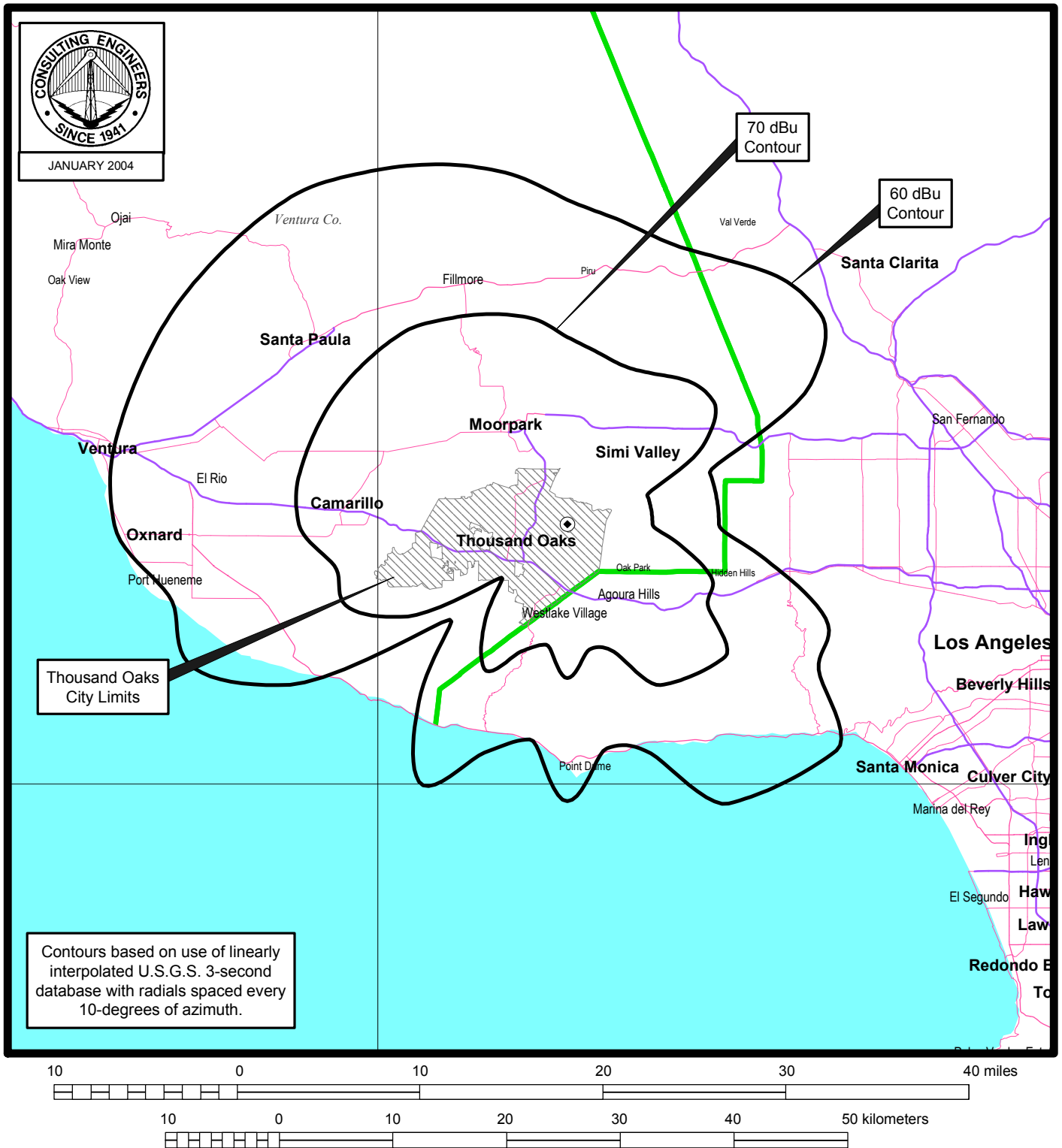
Figure 3

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
RADIO STATION KMLT(FM)  
THOUSAND OAKS, CALIFORNIA  
CH 224A 3.1 KW 141 M

Tabulation of Average Elevations and Distances to Coverage Contours

Azimuth (deg.T)	3-16 km Average Terrain (m)	Antenna HAAT (m)	ERP (kW)	Distance to Contour (km)	
				70 dBu	60 dBu
0	335	143	3.1	16.4	28.5
10	351	127	3.1	15.3	27.0
20	360	118	3.1	14.7	26.3
30	352	126	3.1	15.3	27.0
40	335	143	3.1	16.4	28.5
50	330	148	3.1	16.7	28.9
60	376	102	3.1	13.7	24.6
70	479	-1	3.1	7.5	13.3
80	538	-60	3.1	7.5	13.3
90	452	26	3.1	7.5	13.3
100	426	52	3.1	10.0	17.7
110	380	98	3.1	13.4	24.2
120	368	110	3.1	14.2	25.5
130	308	170	3.1	18.1	30.9
140	322	156	3.1	17.3	29.7
150	337	141	3.1	16.3	28.3
160	402	76	3.1	11.9	21.4
170	412	66	3.1	11.2	20.0
180	377	101	3.1	13.6	24.5
190	417	61	3.1	10.8	19.3
200	402	76	3.1	11.9	21.3
210	361	117	3.1	14.7	26.2
220	410	68	3.1	11.3	20.3
230	474	4	3.1	7.5	13.3
240	338	140	3.1	16.2	28.2
250	252	226	3.1	20.8	35.5
260	250	228	3.1	20.8	35.6
270	181	297	3.1	23.6	39.8
280	171	307	3.1	24.0	40.4
290	181	297	3.1	23.6	39.9
300	190	288	3.1	23.3	39.3
310	205	273	3.1	22.7	38.5
320	219	259	3.1	22.2	37.6
330	249	229	3.1	20.9	35.7
340	276	202	3.1	19.7	33.7
350	302	176	3.1	18.4	31.4
Average	327	141			

Note: All terrain elevations are based on the U.S.G.S. 3-second linearly-interpolated database.



## PREDICTED COVERAGE CONTOURS

RADIO STATION KMLT(FM)  
THOUSAND OAKS, CALIFORNIA  
CHANNEL 224A 3.1 KW 141 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 5

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
RADIO STATION KMLT(FM)  
THOUSAND OAKS, CALIFORNIA  
CH 224A 3.1 KW 141 M

Allocation Study

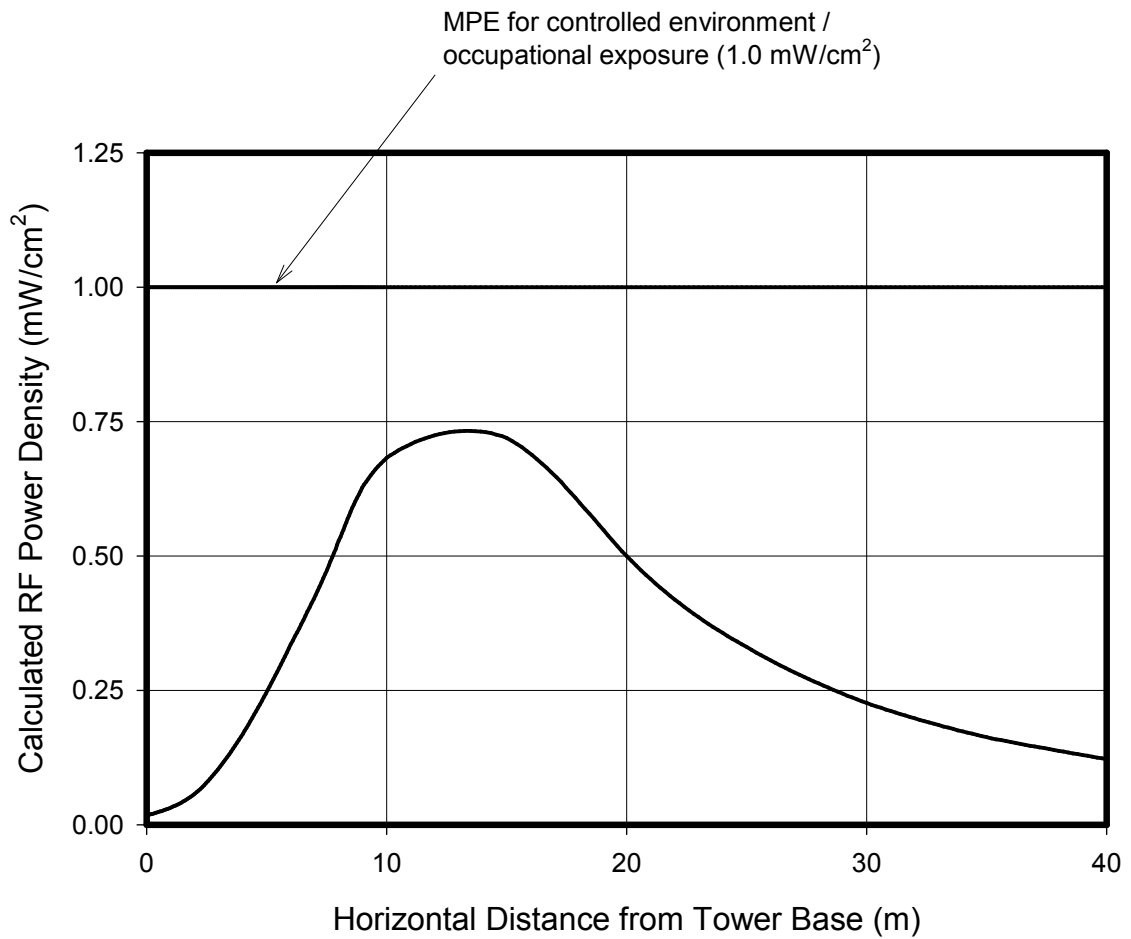
Reference Site: 34-12-21 / 118-49-04

Call Id	City St	File Status	Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km) min max
KHHT 35022	LOS ANGELES CA	BMLH LIC C	19921021KA	222 B 92.3	43.000 887	N	34-13-36 118-03-57	N	87.9	69.33 0.33	63.0 Close
KMLT 21689	THOUSAND OAKS CA	BPH CP C	20010620AAD	224 A 92.7	3.000 141	N	34-12-05 118-49-50	N	247.2	1.28	
<i>(Applicant's authorized construction permit facility.)</i>											
KMLT 21689	THOUSAND OAKS CA	BLH LIC C	19950908KB	224 A 92.7	1.500 197	N	34-09-53 118-54-08	N	239.5	9.02	
<i>(Applicant's licensed facility.)</i>											
KLIT 9304	AVALON CA	BLH LIC C	19931202KG	224 A 92.7	3.000 45	Y	33-20-23 118-19-09	Y	154.3	106.59 -8.41	92.0 Short
<i>(KLIT has been relocated to Fountain Valley. See following record.)</i>											
KLIT 9304	FOUNTAIN VALLEY CA	BMPH CP C	20010620AAE	224 A 92.7	0.690 293	Y	33-36-20 117-48-35	Y	125.4	114.57 -0.43	92.0 Short <sup>‡</sup>
<i>(KLIT construction permit facility with application for licensed pending.)</i>											
KJEE 43589	MONTECITO CA	BPH APP C	20031121AIP	225 B 92.9	50.000 133	N	34-28-13 120-04-54	N	284.6	119.94 6.94	96.0 Close
KJEE 43589	MONTECITO CA	RSV C		225 B 92.9	0.000		34-28-13 120-04-54		284.6	119.94 6.94	96.0 Close
KCBS-F 9612	LOS ANGELES CA	BLH LIC C	19980505KC	226 B 93.1	28.500 1056		34-13-55 118-04-18	N	87.4	68.81 -0.19	63.0 Short <sup>§</sup>

<sup>‡</sup> The separation requirement is met pursuant to the distance rounding procedure of Section 73.208(c)(8) of the FCC Rules.

<sup>§</sup> The separation requirement is met pursuant to the distance rounding procedure of Section 73.208(c)(8) of the FCC Rules.

Figure 6



Notes: The analysis is based on a non-directional effective radiated power of 3.1 kW (H & V) (6.2 kW total). Analysis is for the worst-case radial taking into consideration rising terrain to the east. The predicted RF levels will be less than indicated in other radial directions. Calculations are based on points located 2-m above the surface of the ground.

## CALCULATED RF EXPOSURE ANALYSIS

RADIO STATION KMLT(FM)  
THOUSAND OAKS, CALIFORNIA  
CH 224A 3.1 KW 141 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
RADIO STATION KMLT(FM)  
THOUSAND OAKS, CALIFORNIA  
CH 224A 3.1 KW 141 M

Vertical Plane Radiation Pattern for Proposed Transmitting Antenna

*(one sheet follows)*



Remarks: Elevation pattern for Dielectric, DCRH-1T. Based on manufacturer supplied data. Antenna RMS gain at main lobe = 0.46 (-3.37 dB).