

**November 2007
KEZR(FM) Channel 293B
San Jose, CA
Engineering Report**

Purpose of Application

This application is being filed to comport with site elevation correction made to the antenna structure registration for the tower the KEZR antenna is on. The tower was previously registered under ASR # 1030143; the site elevation correction was made and the tower was re-registered under ASR # 1055723.

Allocation Study

The attached spacing study shows that the proposed operation meets the co-channel and adjacent channel spacing requirements for Class B stations as prescribed in §73.207 of the Commission's Rules, except to KWOD in Sacramento, CA. KEZR operates as a "pre 1964" grandfathered short-spaced station with respect to KWOD. The attached allocation study map demonstrates that the proposed KEZR facility satisfies Section 73.213(a) in that the area within the KWOD protected contour which is predicted to receive co-channel interference lies completely within the current co-channel interference area.

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SEARCH PARAMETERS

FM Database Date: 071029

Channel: 293B 106.5 MHz
 Latitude: 37 12 32
 Longitude: 121 46 27
 Safety Zone: 50 km
 Job Title: KEZR 293B SAN JOSE

Page 1

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
K240CD LIC	SOQUEL, ETC. CA	BLFT-890828TA	240D 95.9	0.028 460.0	DA 37-06-15 121-53-18	221.0	15.42 0.00	0 TRANS
K290AE LIC	BIG SUR VALLEY CA	BLFT-950928TE	290D 105.9	0.250 372.0	DA 36-13-45 121-46-10	179.8	108.72 0.00	0 TRANS
NEW APP	CARMEL VALLEY CA	BSFH-040805AEQ	290A 105.9	0.000 0.0	36-20-28 121-42-51	176.8	96.45 27.45	69 CLEAR
NEW APP	CARMEL VALLEY CA	BNPH-050103AIN	290A 105.9	0.800 276.0	36-21-07 121-36-20	171.0	96.28 27.28	69 CLEAR
K290BF LIC	MODESTO CA	BLFT-070706ADT	290D 105.9	0.008 61.0	37-38-31 120-59-49	54.7	83.92 0.00	0 TRANS
K290AG LIC	STOCKTON CA	BLFT-980205TF	290D 105.9	0.100 36.0	37-57-24 121-17-15	27.1	93.47 0.00	0 TRANS
KQRP-LP LIC	SALIDA CA	BLL-040816AAP	291L1 106.1	0.100 19.7	37-42-35 121-05-41	46.9	81.87 14.87	67 CLEAR
KMEL LIC	SAN FRANCISCO CA	BLH-6755	291B 106.1	69.000 393.0	37-41-24 122-26-13	312.6	79.31 5.31	74 CLOSE
KMELaux LIC	SAN FRANCISCO CA	BLH-910312KC	291B 106.1	8.600 371.0	37-41-23 122-26-12	312.6	79.27 0.00	0 AUX
K291AE LIC	SEASIDE CA	BLFT-980922TG	291D 106.1	0.015 925.0	DA 36-32-18 121-37-31	169.9	75.59 0.00	0 TRANS
KMEL-FM2 LIC	WALNUT CREEK CA	BLFTB-030408AAS	291D 106.1	6.500 0.0	DA 38-01-48 122-00-04	347.7	93.31 0.00	0 BOOST
KNAH LIC	MERCED CA	BLH-041116AEG	292A 106.3	4.000 123.0	DA 37-25-35 120-26-25	78.0 SS	120.68 7.68	113 CLOSE
KMJV LIC	SOLEDAD CA	BLH-971222KF	292A 106.3	4.700 113.0	36-16-27 121-16-15	156.5	113.05 0.05	113 CLOSE
VAC	CAMBRIA CA	RM-11057	293A 106.5	0.000 0.0	35-36-36 121-06-00	161.1	187.44 9.44	178 CLOSE

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SEARCH PARAMETERS

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Page 2

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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
K293BG LIC	CAMBRIA CA	BLFT-070716AAC	293D 106.5	0.010 79.0	35-34-04 121-05-25	161.3	192.16 0.00	0 TRANS
K293AW LIC	EL PASO DE ROBLES CA	BLFT-070627AAA	293D 106.5	0.010 326.0	35-38-47 120-44-17	151.6	196.71 0.00	0 TRANS
KMMT LIC	MAMMOTH LAKES CA	BLH-940712KX	293B1 106.5	0.360 723.0	37-37-42 119-01-47	78.3	247.37 36.37	211 CLEAR
NEW-T APP	NORTH FRESNO CA	BNPFT-030317EDD	293D 106.5	0.250 54.0	36-50-31 119-48-11	102.5	180.06 0.00	0 TRANS
KWOD LIC	SACRAMENTO CA	BLH-830216AD	293B 106.5	50.000 125.0	38-38-30 121-05-25	20.4	170.02 -70.98	241 SHORT
ABSOLUTE MINIMUM 73.215 SPACING = 211 KM								
KEZR LIC	SAN JOSE CA	BLH-020129AAD	293B 106.5	42.000 164.0	37-12-32 121-46-27	0.0	0.00 -241.00	241 SHORT
ABSOLUTE MINIMUM 73.215 SPACING = 211 KM								
KSHC-LP LIC	ST. HELENA CA	BLL-021113AAA	293L1 106.5	0.002 244.8	38-32-28 122-27-12	338.3	159.48 47.48	112 CLEAR
NEW-T APP	WEST FRESNO CA	BNPFT-030313ASH	293D 106.5	0.250 61.0	36-50-09 119-55-04	103.6	170.30 0.00	0 TRANS
NEW-T APP	MARIPOSA CA	BNPFT-030825ANP	294D 106.7	0.010 888.0	37-32-01 120-01-46	76.3	158.69 0.00	0 TRANS
NEW-T APP	MARIPOSA, ETC. CA	BPFT-970825TH	294D 106.7	0.010 886.0	37-32-01 120-01-46	76.3	158.69 0.00	0 TRANS
NEW-T APP	MONTEREY CA	BNPFT-030317CRB	294D 106.7	0.010 267.0	36-35-09 121-55-15	190.7	70.37 0.00	0 TRANS
NEW-T APP	PALO COLORADO CANYON CA	BNPFT-030313BDA	294D 106.7	0.010 396.0	36-23-48 121-52-26	185.6	90.57 0.00	0 TRANS
VAC	WATERFORD CA	RM-10974	294A 106.7	0.000 0.0	37-40-21 120-38-26	62.4	112.75 -0.25	113 SHORT
ABSOLUTE MINIMUM 73.215 SPACING = 96 KM								

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SEARCH PARAMETERS                               FM Database Date: 071029
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KQLB LIC	LOS BANOS CA	BLH-921207KI	295A 106.9	6.000 100.0	36-55-35 120-50-42	110.6	88.38 19.38	69 CLEAR
KEQP-LP LIC	MODESTO CA	BLL-060113AAB	295L1 106.9	0.021 64.0	37-38-31 120-59-48	54.7	83.94 16.94	67 CLEAR
KFRC-FM LIC	SAN FRANCISCO CA	BMLH-050811ABJ	295B 106.9	80.000 305.0	37-51-04 122-29-50	318.5	95.74 21.74	74 CLEAR
KFRCaux LIC	SAN FRANCISCO CA	BXLED-050505ACC	295B 106.9	3.000 294.0	37-51-03 122-29-50	318.4	95.71 0.00	0 AUX
NEW-T APP	SOLEDAD CA	BNPFT-030317EHI	295D 106.9	0.250 379.0	36-22-48 121-12-57	151.5	104.61 0.00	0 TRANS
KSES-FM LIC	SEASIDE CA	BLH-930507KB	296A 107.1	1.850 179.0	36-33-09 121-47-17	181.0	72.85 3.85	69 CLOSE

iiii END OF FM SPACING STUDY FOR CHANNEL 293 iiii

NIER Analysis

Facilities Proposed

The proposed facility will be on channel 293B (106.5 MHz) with a maximum lobe effective radiated power of 42 kilowatts. Operation is proposed with a 6 element circularly polarized directional antenna, side-mounted on a self-supporting tower located atop Coyote Peak.

The FCC Antenna Structure Registration Number for the proposed tower is 1055723.

NIER Calculations

As will be demonstrated below, the proposed operation of KBAY will produce less than 5% of the applicable exposure limit for both controlled and uncontrolled environments. Thus, the proposed facility is categorically excluded from the requirement of further study. Therefore, pursuant to §1.1307(b)(3) of the Commission's Rules no calculations are required for the other FM and TV facilities in the vicinity, and precise calculations are made only with regard to the levels from this proposal.

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\text{mW} / \text{cm}^2) = \frac{33.40981 \times \text{AdjERP}(\text{Watts})}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Calculations of the power density produced by the KEZR antenna system assume a Type 3 element pattern, which is the appropriate element pattern for the ERI MP-6E-DA-HW directional antenna used by KEZR. Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 1000 meters. Values past this point are increasingly negligible.

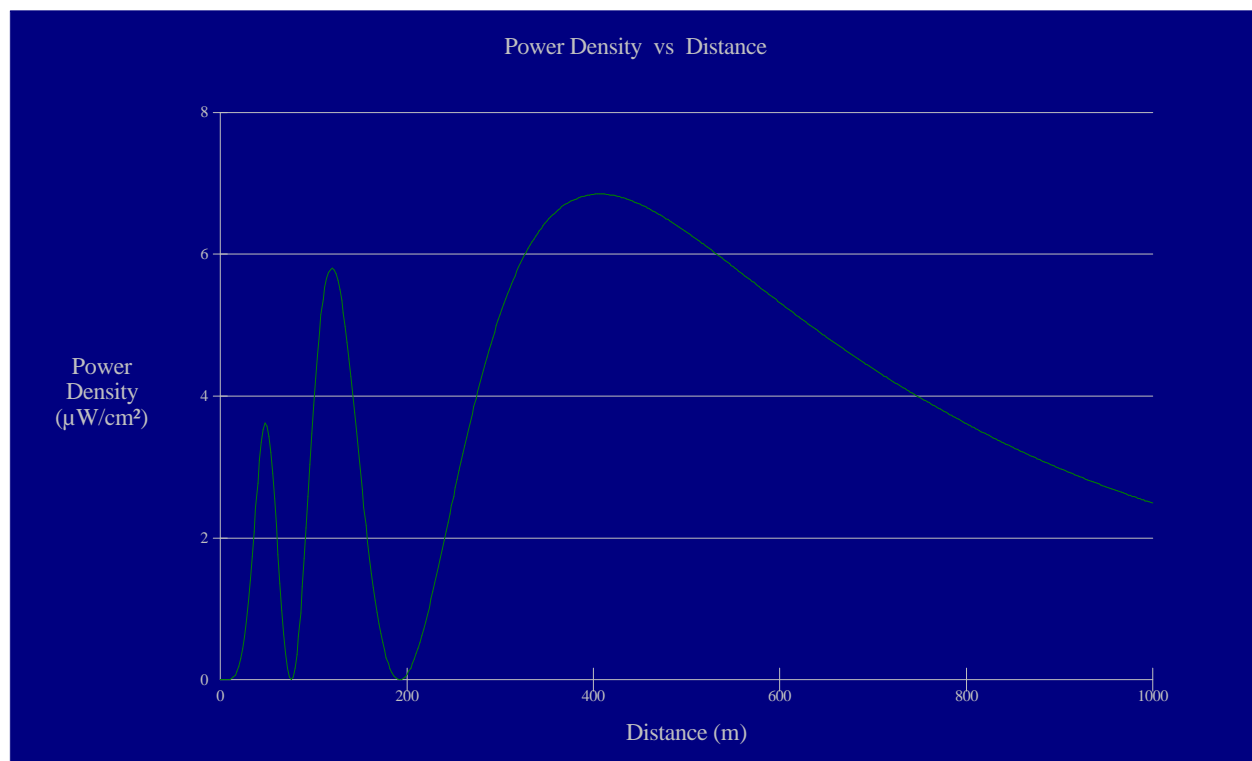
The highest calculated ground level power density from KEZR occurs at a distance of 406 meters from the base of the antenna support structure. At this point the power density is calculated to be 6.85 $\mu\text{W}/\text{cm}^2$, which is 0.685% of 1000 $\mu\text{W}/\text{cm}^2$ (the FCC standard for controlled environments) and 3.43% of 200 $\mu\text{W}/\text{cm}^2$ (the FCC standard for uncontrolled environments).

Hatfield & Dawson Consulting Engineers

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation of KEZR alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 1000 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicants proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 et seq and no further analysis of non-ionizing radiation at this site is required in this application.

Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency radiation in excess of FCC guidelines.



Ground-Level NIER

OET FMModel

KEZR San Jose, CA

Antenna Type: ERI MP-6E-DA-HW

No. of Elements: 6

Element Spacing: 0.5 wavelength

Distance: 1000 meters

Horizontal ERP: 42 kW

Vertical ERP: 42 kW

Antenna Height: 70 meters AGL

Maximum Power Density is $6.85 \mu\text{W}/\text{cm}^2$ at 406 meters from the antenna structure.