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January 4, 2017

BY HAND

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street SW
Washington, DC 20554

Attn: Audio Division, Media Bureau

Re: TMS License California, Inc.
KSQL (FM) (70033), Santa Cruz, CA
Notification of New Main Studio Location

Dear Ms. Dortch:

On behalf of TMS License California, Inc., licensee of KSQL(FM) (the "Station"), and pursuant to Section 73.313(e) of the Commission's rules, I hereby submit the instant technical exhibit for the purpose of demonstrating that the Station's proposed main studio location complies with Section 73.1125 of the Commission's rules. The Station's proposed main studio location is 1940 Zanker Road, San Jose, CA 95112.

Please direct any questions regarding this matter to the undersigned.

Respectfully submitted,

Ann West Bobeck

Counsel for TMS License California, Inc.

TECHNICAL EXHIBIT
PREPARED ON BEHALF OF
FM STATION KSQL
SANTA CRUZ, CALIFORNIA
CH 256B (99.1 MHZ) 1.1 KW (DA) 796 M

This technical exhibit was prepared on behalf of FM station KSQL at Santa Cruz, California. The purpose is to demonstrate that KSQL's proposed main studio location is within KSQL's 70 dBu field strength contour as required by Section 73.1125. This Technical Exhibit was prepared based on current FCC policy regarding use of alternate terrain showings.

Station KSQL is currently licensed (FCC File No. BLH-19900116KE) to operate on channel 256B (99.1 MHz) at Santa Cruz, California with directional antenna (DA) maximum effective radiated power (ERP) of 1.1 kilowatts (kW) and an antenna height above average terrain (HAAT) of 796 meters. The main studio is located at 1940 Zanker Road, San Jose, California, 95112. The geographic coordinates for the proposed main studio location are Latitude 37°22'33.6" North, Longitude 121°54'3" West (NAD27) which places it 30.05 km at an azimuth of 348.9° true from the KSQL transmitter site.

Acceptability of Supplemental Showing

The KSQL transmitter is located on a mountain far higher than the terrain elevation throughout the city of San Jose, wherein the main studio is located, with terrain in the foreground of the studio far lower than that in the foreground of the transmitter. As such, it is appropriate to use a supplemental showing in the context of compliance with coverage of the main studio location (Section 73.1125).[1] Specifically, as indicated below, there is a 63 percent difference in the distance

[1] See *Amendments of Parts 73 and 74 of the Commission Rules to Permit Certain Minor Changes in Broadcast Facilities Without a Construction Permit*, Report and Order, 12 FCC Rcd 12371, 12401-03 (1997) (the "*Minor Changes R&O*"); *KNTV Licensee, 19 FCC Rcd 15479 (2004); Letter to Christopher Sova, Esq. re KFME(FM) from Peter H. Doyle, Chief, Audio Division, Media Bureau (March 5, 2004)* ("*KFME*"), *affirmed sub nom. CMP Houston-KC, LLC*, Memorandum Opinion and Order, 23 FCC Rcd 10565 (2008) ("*KFME MO&O*"); and *Skytower Communications - 94.3, LLC, Request for Determination of Compliance with the Main Studio Location Rule, 47 CFR 73.1125*, Memorandum Opinion and Order and Notice of Apparent Liability for Forfeiture, Facility ID No. 25799, NaL/Acct. No. MB 201041410015, FRN: 0001790724, DA 10-1760.

to the 70 dBu contour based on the supplemental method compared to the distance provided by the standard prediction method. As such, the terrain along propagation path from the KSQL transmitter site towards the main studio is considered to 'depart widely' from the 50 meter delta standard, thus satisfying the requirements in the *Minor Changes R&O* that the 70 dBu contour as predicted by the supplemental method be at least 10% larger than the distance based on the standard prediction method.

Longley-Rice Coverage Analysis

The Longley-Rice propagation model[2] was used as more precise alternative to the Commission's standard prediction method to determine the location of KSQL's proposed 70 dBu contour along the direct bearing toward the KSQL main studio at 348.9° true. A Longley-Rice analysis terrain profile was prepared for the 348.9° true radial and is attached as Figure 1. The terrain data was derived from the NGDC 3-second terrain database. Using these terrain elevations, calculations of the KSQL field strength were made at 0.1-km intervals along the 348.9° radial using the Longley-Rice propagation model. The following parameters were employed in the calculations:

Model	Point-to-point irregular
Location Variability	50%
Time Variability	50%
Situation Variability	50%
Frequency	99.1 MHz
Polarization	Horizontal
Conductivity	0.005 S/m
Dielectric Constant	15.0
Transmitter Antenna Height AMSL	308 m
Transmitting Antenna	Directional
Effective Radiated Power at 348.9° true	388 W

[2] Rice, P.L., A.G. Longley, K.A. Norton, and A.P. Barsis, "Transmission Loss Predictions for Tropospheric Communication Circuits," Technical Note 101 (Issued May 7, 1965, Revised January 1, 1967) National Bureau of Standards, Boulder, Colorado.

See also Longley, A.G., and P.L. Rice, "Prediction of Tropospheric Radio transmission Loss Over Irregular Terrain: A Computer Method-1969,"" ESSA Technical Report ERL-ITS 67, Institute for Telecommunications Sciences, Boulder, Colorado, July 1968.

Receive Antenna Height	9.1 m
Clutter Factor	3 db

As indicated above, a 3 dB clutter factor was used to take into account field strength variations due to local clutter (e.g. trees, buildings).[3] The results of the study are illustrated graphically on Figure 1. The field strength data was analyzed to determine the 'median' 70 dBu value using polynomial curve fitting (based on the method of least squares).[4] This is indicated on the radial based on this analysis and, as indicated, the Longley-Rice 70 dBu encompasses the KSQL main studio location.[5]

Figure 2 is a map showing the location of the 70 dBu contour based on the FCC's standard prediction method [F(50,50)] and the location of the Longley-Rice 70 dBu along the direct bearing toward the KSQL main studio at 348.9° true. Also shown is the main studio location, the KSQL transmitter site and the 60 dBu contour based on the FCC's standard prediction method [F(50,50)]. As indicated, the 70 dBu based on the Longley-Rice method encompasses the proposed main studio.

Compliance with 70 dBu Contour 10% Extension Criteria

The following tabulates the distance to the 70 dBu contour along the 348.9° radial based on the FCC's standard prediction method [F(50,50)] and the Longley-Rice alternate terrain method, the difference and percent change:

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[3] Use of a 3 dB clutter factor appears "conservative" for the propagation paths considered here. For instance, a 2 dB clutter factor was used by the FCC to establish that KALF-FM at Red Bluff, California encompassed its main studio location - see Memorandum from William Daniel, Chief, Propagation Analysis Bureau, OET, to Dennis Williams, Chief, FM Branch, MMB, dated Oct. 6, 1992 concerning the supplemental showing of 3.16 mV/m contour of KALF-FM, Red Bluff, CA, File BLH-851125KH. In addition, Bullington indicated that the average loss from surrounding trees for horizontal polarization may be 2 to 3 dB (see Kenneth Bullington, "Radio Propagation at Frequencies Above 30 Megacycles, Proc IRE, October, 1947).

[4] The polynomial equation used for the analysis is shown on Figure 1 along with the R-squared value, which helps determine the line of best fit.

[5] It is noted that the KSQL main studio is also located within the KSQL 60 dBu contour based on the FCC's standard prediction method [F(50,50)] which extends 45.5 km along the 348.9° radial.

Radial	70 dBu Field Strength (km)		Difference	
	FCC F(50,50)	Longley-Rice	Km	Percent
348.9°	25.2	41.2	16.0	+63

The difference between the distances to the 70 dBu contours exceeds 10 percent.

Sample Calculation

The following provides a sample Longley-Rice calculation along the 348.9° true radial.

Free Space Field (388 Watts @ 20 km)	76.8 dBu
Additional estimated transmission loss	0 dB
Clutter Loss	3 dB
Net received field	73.8 dBu

Conclusion

As demonstrated above, use of a supplemental showing is appropriate based on the FCC's policies and decisions for considering supplemental showings in the context of demonstrating compliance with coverage of the main studio. In addition, KSQL complies with main studio coverage requirements of Section 73.1125 based on the supplemental showing.

The attached technical statement has been prepared by or under the direct supervision of W. Jeffrey Reynolds, technical consultant with the firm of du Treil, Lundin and Rackley, Inc., a telecommunications consulting firm located in Sarasota, Florida, who states that his qualifications are a matter of record with the Federal Communications Commission, having been presented on previous occasions. All data and

statements contained herein are true and correct to the best of his knowledge and belief.

W. Jeffrey Reynolds

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December 16, 2016

348.9 Degrees True
(Radial Through KSQL Main Studio)

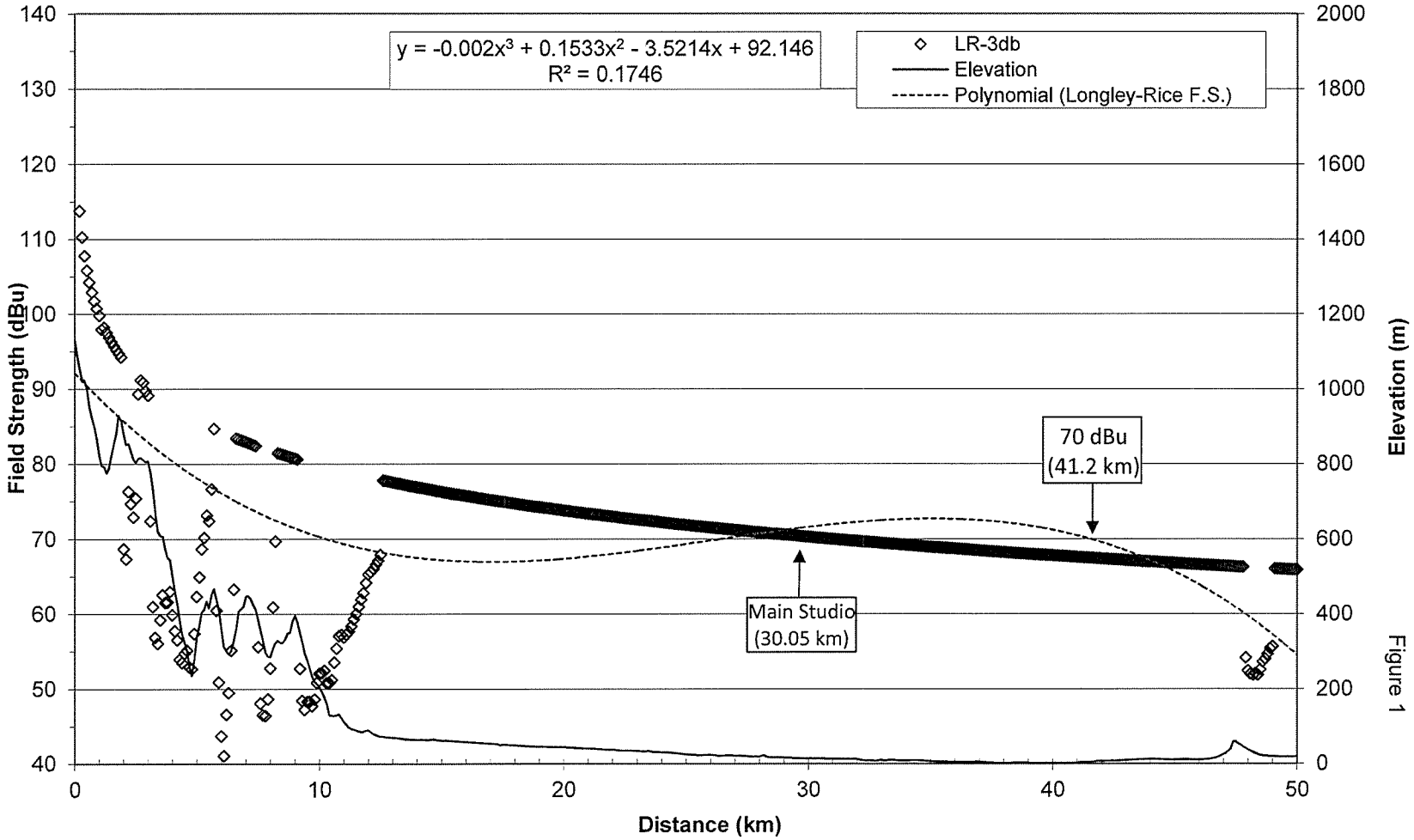
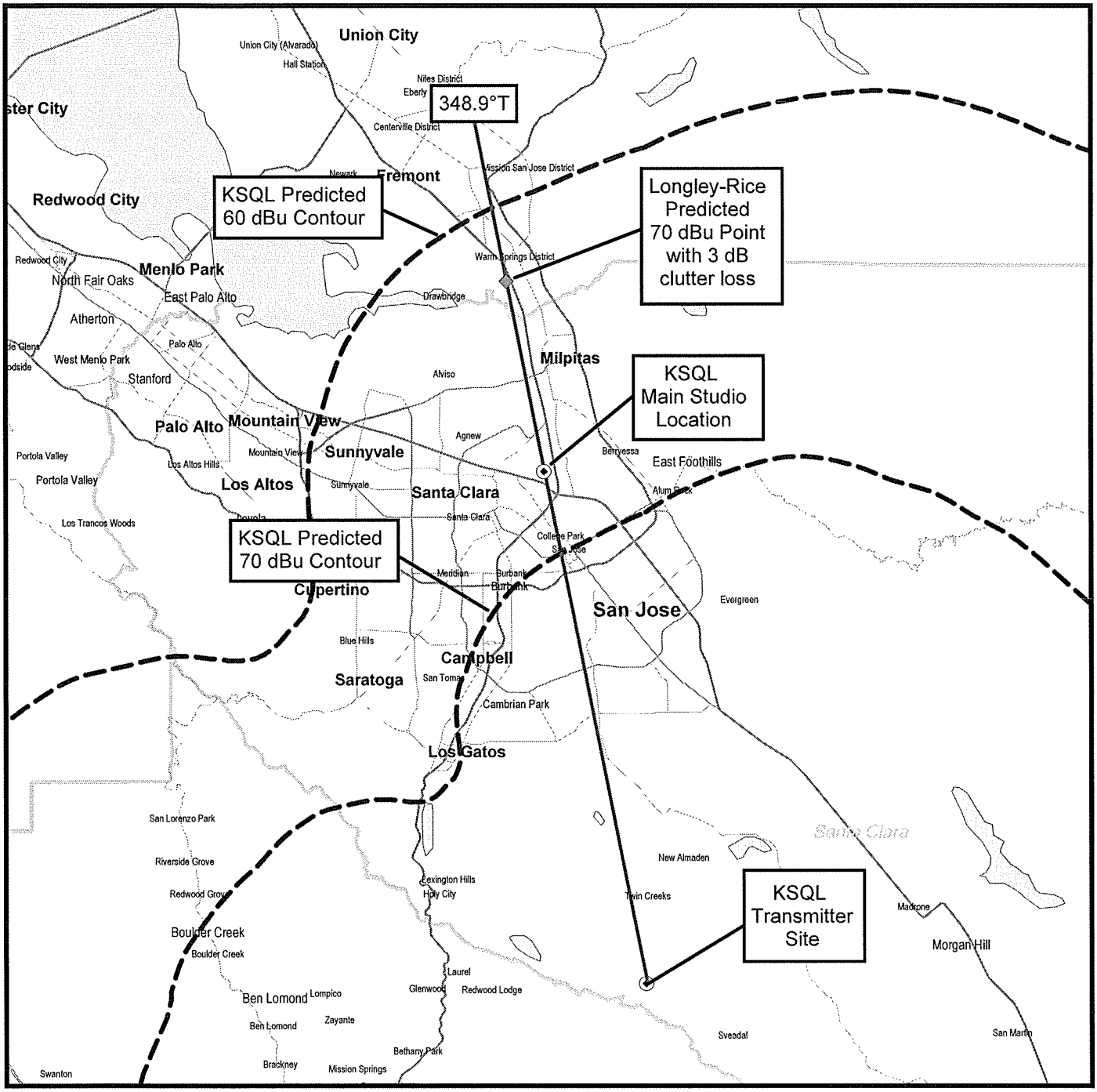


Figure 1



KSQL MAIN STUDIO AND PREDICTED 70 DBU