Consulting Engineers
CTJC
CARL T. JONES CORPORATION

October 4, 2021

KFER (FM) Santa Cruz, CA - Facility ID: 59064
Minor Modification Application for Construction Permit
License File Number BLED-19920212KB

Engineering Statement in Support of a Request for waiver of 47 C.F.R. §73.510(b)

Following the recent California wildfires the licensed transmitter site property was sold, the Applicant lost its currently licensed tower site (FCC File No. BLED-19920212KB) and is currently operating pursuant to Special Temporary Authority (FCC File No. BSTA-20210730AAM) in order to maintain service to the public. By means of this application, the Applicant proposes to permanently relocate KFER(FM) to an existing tower.

Unfortunately, there are very few existing towers (i.e. towers registered with the FCC) in the area and none appear suitable for a permanent FM installation in full-compliance with all applicable FCC Rules. Three of the existing towers (ASR Numbers 1270591 (crowded hospital/emergency room rooftop), 1279142 (crowded cell pole, literally 10 feet from a residential backyard fence) and, 1269505 (50' pole, top half in use)) are for cellular service and are very lightweight poles that are heavily loaded with cellular antennae and are historically incompatible with FM installations. The other three existing towers (ASR Numbers 1053096, 1053097, 1053098) are located in a lagoon and are used in a complex, diplexed AM directional antenna array. The use of any of these towers at the AM site would be cost prohibitive even if otherwise available.

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Similarly, the costs and the overwhelming public opposition to any proposed tower construction in this area effectively eliminates the option to build a new tower to accommodate KFER(FM).

The tower proposed herein was identified after an extensive search and is located on private property where the Applicant has received site assurance. Unfortunately, in order to provide the requisite city-grade service to Santa Cruz (the KFER(FM) community of license) from this site and to satisfy the protection requirements of Section 73.509 of the FCC Rules with respect to all pertinent cochannel and adjacent-channel stations, a directional antenna is required which would allow KFER(FM) to operate with full power toward Santa Cruz and very limited power toward its protections (See Section 73.509 Exhibit elsewhere in this application). The ratio of the maximum power required to properly serve the community of license and the minimum power required to comply with Section 73.509 exceeds 15 dB. Therefore, the directional antenna specified herein unavoidably fails to comply with Section 73.510(b) of the FCC Rules which sets forth a maximum-to-minimum ratio of 15 dB. Accordingly, the Applicant requests a waiver of 15 dB front-to-back rule as set forth in Section 73.510(b) of the FCC Rules.

As discussed above, good cause exists for the requested waiver. Further, the directional antenna specified herein, an off-the-shelf, Kathrein (Scala) CL-FM Log-Periodic directional antenna, is in widespread use throughout the country by FM translator stations providing contour protection to hundreds (or more likely thousands) of

full-service FM stations. Further, the Applicant is committed to providing all necessary directional antenna performance and installation documentation as required of all full-service stations by Section 73.316 of the FCC Rules at licensing.

As shown elsewhere in this application, the proposed KFER(FM) 60 dBu contour will cover 83.4% of the community of license in compliance with Section 73.515 of the FCC Rules. In addition to maintaining the local service to Santa Cruz, the grant of the waiver request and the implementation of the instant proposal will result will be restoration of a full-service NCE-FM aural service to 131,776 people within the proposed 60 dBu contour.

47 C.F.R. Sections 73.203, 73.207,73.213, 73.315, 73.509, 73.515 73.525, & 73.1125

The table on the last sheet shows the contour overlap values for the proposed translator. The proposed facility satisfies each of the requirements of 47 C.F.R. Sections 73.203, 73.207,73.213, 73.315, 73.509, 73.515 73.525, and 73.1125.

The coverage map included shows that the proposed 60 dBu contour will cover 83.4% of the community of Santa Cruz. Further, the applicant will maintain a local telephone number in its community of license or a toll-free number.

47 C.F.R. Section 1.1306

A Commission grant of Authorization for this location would not be an action which will have a significant environmental effect. The proposed facility will operate with a maximum of 68 watts effective radiated power. Facilities with less than 100 watts ERP are categorically excluded from environmental processing. The permittee/licensee in

coordination with other users of the site will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.

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Channel Study of Proposal for KFER (FM)

REFERENCE CH# 210A - 89.9 MHz, Pwr= 0.068 kW DA, HAAT= 331.4 M, COR= 672.2 MDISPLAY DATES
37 06 27.0 N. Average Protected F(50-50)= 17.2 km DATA 10-02-21
121 53 50.0 W. Standard Directional SEARCH 10-02-21

CH	CALL	TYPE	ANT	AZI.	DIST	FILE #	LAT.	LNG.	Pwr(kW)	HAAT(M)	INT(km)	COR(M)	PRO(km)	LICENSEE	*IN* (Overlap in km)	*OUT*
CITY		STATE		<--												
210A	KFER!	LIC	CN	213.1	12.59		37 00 44.80		0.200					---Reference---		
Santa Cruz		CA		33.0	BLED19920212KB		121 58 28.80		8		174			Santa Cruz Educational Bro		
209B1	KFJC	LIC	CN	317.6	32.13		37 19 13.70		0.110		29.5				18.4	0.1
Los Altos		CA		137.4	BMLED19961105KB		122 08 32.80		562		820			Foothill-De Anza Community		
210A	KHCF	LIC	HN	92.2	25.27		37 05 55.10		0.160		21.1				6.3	2.0
Morgan Hill		CA		272.3	BLED20131017APM		121 36 47.10		-178		104			Common Frequency, Inc		
208A	KHCF	APP	DHN	116.7	13.75		37 03 06.60		0.014		0.3				2.8	9.2
Morgan Hill		CA		296.8	0000125602		121 45 32.30		458		750			Common Frequency, Inc		
207A	KBCZ	LIC	CN	274.7	18.42		37 07 14.70		0.115		0.8				5.9	7.7
Boulder Creek		CA		94.5	0000145377		122 06 13.90				383			Boulder Creek Recreation &		
207A	KMTG	LIC	DCN	16.3	10.88		37 12 05.80		0.300		0.2				3.2	8.5
San Jose		CA		196.3	0000109662		121 51 45.80		-95		185			San Jose Unified School Di		
209B	KNVM	LIC	DCN	138.0	52.49		36 45 21.90		0.450		34.6				18.1	7.5
Prunedale		CA		318.2	BLED20060822AJC		121 30 09.80		715		1013			Educational Media Foundati		
213A	KSJS	LIC	DCN	43.5	15.58		37 12 32.80		1.500		0.9				6.5	12.5
San Jose		CA		223.6	BMLED20010928AAK		121 46 33.80		144		396			San Jose State University		
209B1	KNVM	CP	DCN	138.0	52.49		36 45 21.90		0.330		31.9				18.1	9.8
Prunedale		CA		318.2	BPED20190507ABL		121 30 09.80		715		1013			Educational Media Foundati		
212B1	KAZU	LIC	CN	171.1	62.34		36 33 08.70		3.100		3.3				40.7	41.6
Pacific Grove		CA		351.2	BLED20160223ABC		121 47 21.00		189		406			University Corporation At		
211A	KZSU	LIC	CN	323.7	42.00		37 24 41.70		0.500		12.0				8.5	26.9
Stanford		CA		143.5	BLED1774		122 10 44.80		-3		155			The Board Of Trustees Of T		
210A	KFRS	LIC	VN	148.8	108.14		36 16 24.80		0.250		64.3				22.0	31.0
Soledad		CA		329.1	BLED20020408ABB		121 16 15.70		93		386			Family Stations, Inc.		

Terrain database is NED 03 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM In & Out distances between contours are shown at closest points. Reference Zone= - Zone 1A, Co-3rd adjcnt. Call signs with exclamation marks need not be protected.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X) « = Station meets FCC minimum distance spacing for its class.