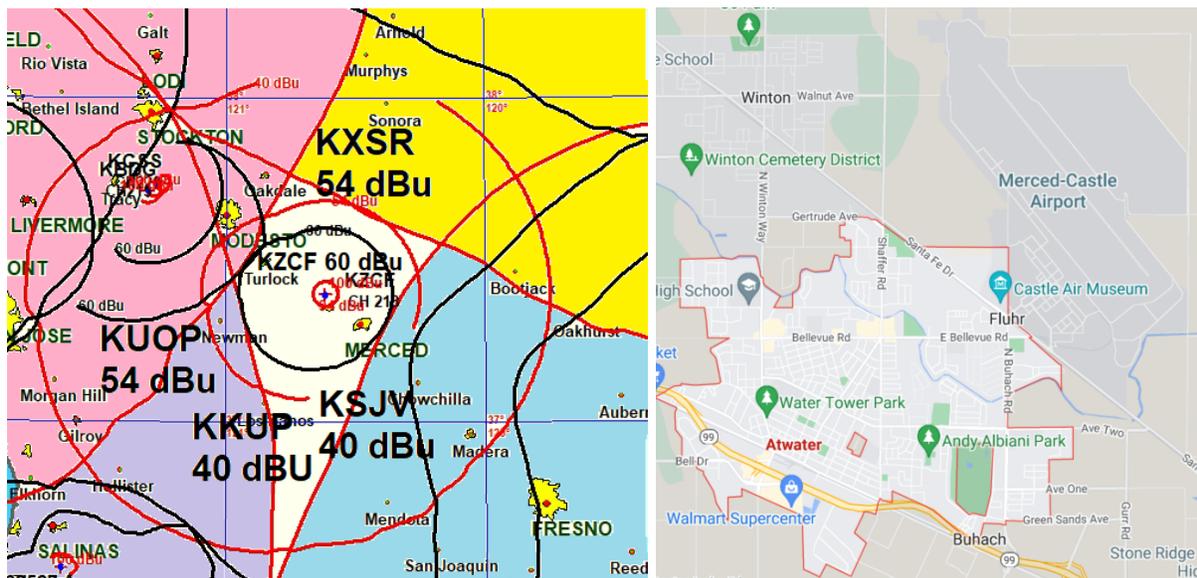


# ENGINEERING SPECIAL TEMPORARY AUTHORITY KZCF (FM) ATWATER, CALIFORNIA

## ENGINEERING STA REQUEST

*Extraordinary Circumstances:* Background: KZCF NCE (FM) lost its tower site. Licensee was looking for a new site, but found no established towers that would suffice. The 60 dBu service contour is literally penned-in on all four sides, with no currently-built tower meeting broadcast FM needs in the open area (see below). Furthermore, the proximity to Castle-Merced Airport makes a newly-proposed broadcast tower difficult to permit at a new location in Atwater.



Above: (A) KZCF Atwater licensed 60 dBu with interfering contours on all sides. (B) Merced-Castle Airport shown, adjacent to Atwater, makes it difficult to propose a new tower.

Late last year the licensee found that a channel change could accommodate the move to an area with more plentiful towers. Modification Application File No. 0000160629 was recently granted to provide a solution to this problem.

*Request:* Licensee requests permission to temporarily relocate transmitter/antenna within the current 60 dBu contour as a temporary location until the new CP is built. *Reasons:* The licensee needs more time to construct the recently-granted construction permit because: (A) Licensee needs to wait until first adjacent construction permit NEW FID 766527 AFN 0000167151 is granted shortly for mutual modifications to be made to allow KZCF to use a superior site, (b) KZCF is moving the facility for educational collaboration with the students of the University of California, Merced, which had been on summer break, and (c) the 10 kW permit facility is larger project taking more time to activate.

*Public interest:* The requested accommodation will allow KZCF to continue to broadcast to its audience. It is thought that if it alternatively goes silent it would lose its listener base and programmers would be discouraged. Both would have a negative impact with regard to income and programming, along with lapse in community information programming. The loss of a NCE where there is no other locally-programmed facility due to insolvency would not be in the public interest.

*Duration:* Licensee is requesting 6 months.

## **Engineering**

Coordinates:                    37 24 16.4 N 120 37 37.7 W - NAD 27  
   37 24 16.6 N 120 37 34.0 W - NAD 83

Ground Elevation:            55 meters AMSL

Building Roof Elevation      61 meters AMSL (6 m from ground)

Antenna Center of Radiation: 68.6 m    AMSL (7.6 m from roof)

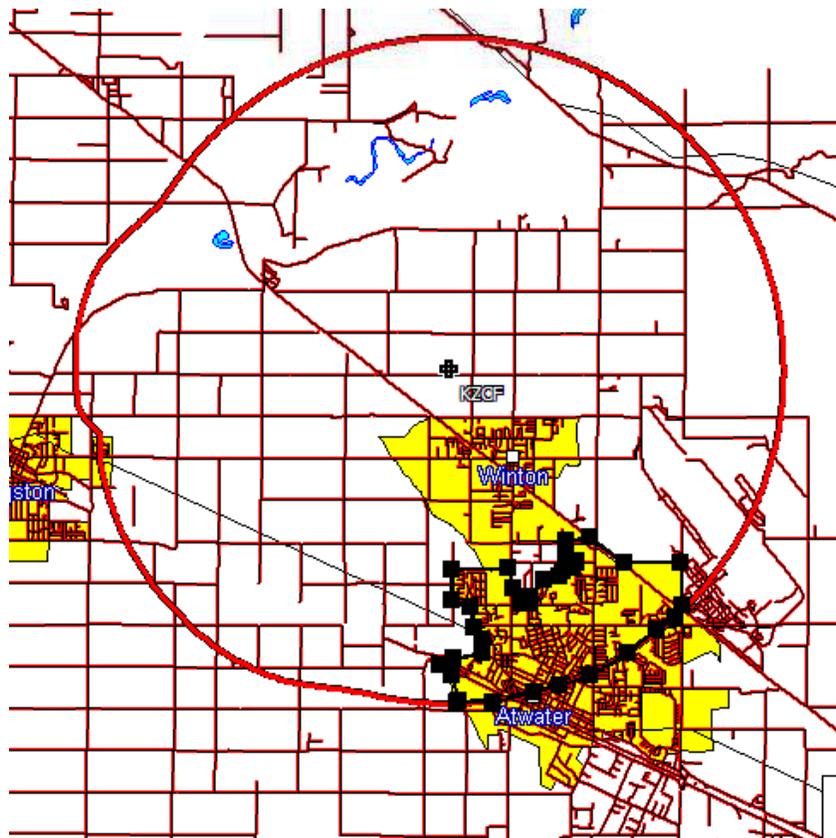
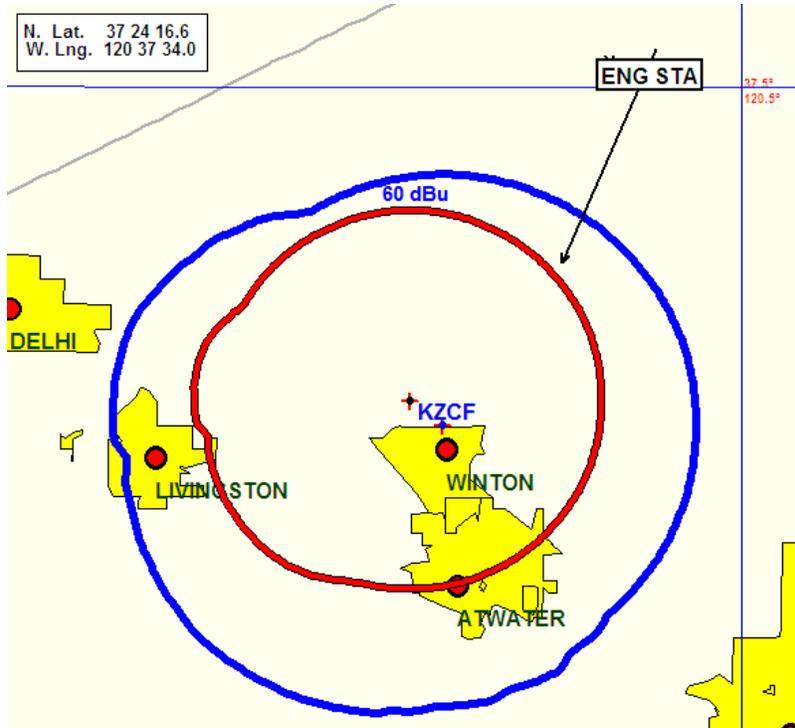
Total AGL                      13.6 m

TPO:                              400 w

Feedline:                        60 ft LMR 400 (.706 db loss = 340 watts out)

Antenna                         0.5x gain FMU CP100 circular polarization

ERP                                340 x 0.5 = 170 w



Proposed 60 dBu: (1) Red contour above demonstrates proposed site; Blue contour represents licensed contour. (2) STA site covers 8.7 km, or 55% of the total area of 15.8 km of Atwater, CA.

**TOWAIR**

<b>DETERMINATION Results</b>							
<b>PASS SLOPE(100:1)NO FAA REQ - 4293.0 Meters (14084.4 Feet)away &amp; below slope by 29.0 Meters (95.1400 Feet)</b>							
Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	37-23-35.00N	120-34-51.00W	CASTLE	MERCED ATWATER, CA	54.2	3597.3000000000002
<b>PASS SLOPE(100:1)NO FAA REQ - 4293.0 Meters (14084.4 Feet)away &amp; below slope by 29.0 Meters (95.1400 Feet)</b>							
Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	37-23-35.00N	120-34-51.00W	CASTLE	MERCED ATWATER, CA	54.2	3597.3000000000002
<b>Your Specifications</b>							
<b>NAD83 Coordinates</b>							
Latitude						37-24-16.4 north	
Longitude						120-37-37.7 west	
<b>Measurements (Meters)</b>							
Overall Structure Height (AGL)						13.6	
Support Structure Height (AGL)						6	
Site Elevation (AMSL)						55	
<b>Structure Type</b>							
B - Building							

# INTERFERENCE PROTECTION

Common Frequency, Inc.

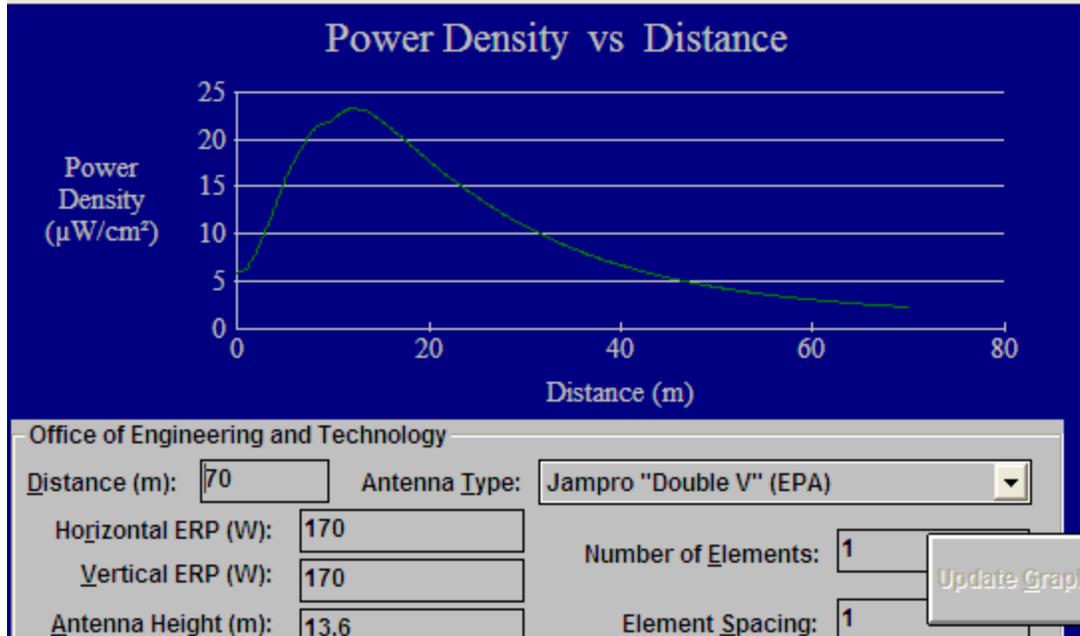
REFERENCE CH# 218A - 91.5 MHz, Pwr= 0.17 kW, HAAT= 19.4 M, COR= 68.7 M DISPLAY DATES  
 37 24 16.6 N. Average Protected F(50-50)= 6.4 km DATA 08-12-19  
 120 37 34.0 W. Omni-directional SEARCH 09-15-19

CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
218A Atwater	KZCF!	LIC	C CA	127.6 307.7	1.39 BLED20121004ABV	37 23 49.0 120 36 49.0	0.500 32		---Reference---		Common Frequency, Inc.
218B1 Cupertino	KKUP	LIC	CN CA	253.5 72.8	112.54 BLED19831114AD	37 06 40.0 121 50 36.0	0.200 787	102.8 1180	38.4 Assurance Science Foundati	2.8	50.7
217B Stockton	KUOP	LIC	DCN CA	277.7 97.2	64.49 BLED19830310AI	37 28 48.0 121 21 02.0	7.000 372	54.2 827	34.9 California State Universit	3.1	19.3
218B Fresno	KSJV	LIC	CN CA	119.2 300.2	172.02 BLED19800806AB	36 38 15.0 118 56 35.0	16.000 265	162.3 1608	74.1 Radio Bilingue, Inc.	3.3	76.5
219B Groveland	KXSR	LIC	DCX CA	24.4 204.7	80.45 BMLLED20121119AOT	38 03 46.0 120 14 45.0	4.000 485	69.2 1543	46.3 California State Universit	4.8	25.0
220A Turlock	KCSS	LIC	DCX CA	303.7 123.5	24.45 BLED20121127BAM	37 31 35.0 120 51 25.0	6.000 32	1.6 63	15.8 California State Universit	16.4	7.8
215A Turlock	KBDG	LIC	DCX CA	300.3 120.1	24.84 BLED20110523AEO	37 31 01.0 120 52 10.0	0.730 12	1.6 41	9.4 Assyrian American Civic Cl	16.8	14.5
221B Clovis	KRDA<<	LIC	CX CA	109.9 290.4	89.57 BLH20110819ABO	37 07 40.0 119 40 39.0	39.000 170	7.5 621	75.2 Univision Radio Stations G	68.5R	21.1M
216B Fairmead	KLVY	LIC	CX CA	109.9 290.4	89.39 BLED20100401AHV	37 07 40.0 119 40 39.0	39.000 170	7.5 621	61.4 Educational Media Foundati	75.4	27.1
272A Modesto	KJSN<<	LIC	C CA	319.5 139.4	40.37 BMLH20100211ABM	37 40 50.0 120 55 26.0	6.000 88	38.4 121	11.3 Capstar Tx, Llc	9.5R	30.9M
06 -- Ceres	K06QL-D<<	CP	DCN CA	12.3 192.4	44.18 0000022114	37 47 34.3 120 31 08.3	3.000 -999	2.1 417	9.1	11.2R	33.0M
220D Los Banos	K220GR!	LIC	CN CA	208.4 28.2	52.06 BLFT19990511UE	36 59 32.0 120 54 17.0	0.055 -27	0.5 96	6.8 Centro Cristiano De Vida E	44.7	44.3
218D Coarsegold	K218CZ!	LIC	DV CA	96.6 277.2	85.08 BLFT20021127ADA	37 18 45.0 119 40 13.0	0.010 241	30.8 1116	8.1 Pacific Cascade Communicat	47.9	55.5
06 --- San Jose	KBKF-LP<<	APP	N CA	275.8 95.1	110.38 BPTVL-20101014ACL	37 29 55.9 121 52 16.0	3.000 -999	2.6 831	35.1	37.8R	72.6M
06 --- San Jose	KBKF-LP<<	APP	CN CA	275.8 95.1	110.38 BPTVL-20101014ACL	37 29 55.9 121 52 16.0	3.000 -999	2.6 831	35.1	37.8R	72.6M
06 -- San Jose	KBKF-LP<<	CP	D N CA	253.5 72.8	112.57 BDFCDVL-20140213AA	37 06 39.1 121 50 37.0	2.000 -999	2.3 1184	23.5	25.8R	86.7M
06 -- San Jose	KMCF-LD<<	CP	DHN	121.2	139.84	36 44 45.4	3.000	2.1	46.3	48.5R	91.4M

Visalia		CA	302.0	0000053703		119 16 59.0	-999	1049		
06--- KBKF-LP<<										
	LI	D N	253.5	112.57		37 06 39.1	0.600	2.6	7.0	9.6R 103.0M
San Jose		CA	72.8	BLTVL-20100818AAH		121 50 37.0	-999	1184		
06Z-- KEFM-LP<<										
	CP	HN	347.8	149.62		38 43 10.7	3.000	2.4	35.9	38.3R 111.3M
Sacramento		CA	167.6	0000021783		120 59 21.6	-999	673		
06Z-- KEFM-LP<<										
	APP	CN	333.1	162.87		38 42 28.5	3.000	2.4	23.4	25.8R 137.1M
Sacramento		CA	152.6	0000075405		121 28 32.5	-999	132		

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Terrain database is NGDC 30 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
Contour distances are on direct line to and from reference station. Reference Zone= - Zone 1A, Co to 3rd  
adjacent.

All separation margins (if shown) include rounding. 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), Beamtlt(Y,N,X)  
"\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.  
<< = Station meets FCC minimum distance spacing for its class.



The applicant proposes mounting 7.6 m mast on a 6 m building -- 13.6 m AGL -- with 170 watts ERP. A one-bay omnidirectional double-v antenna is proposed. The antenna is therefore 11.9 m above the average height of a human (1.7 m). FM Model predicted a maximum RF exposure of 23.3µW/cm<sup>2</sup> , at 11.9 meters from the tower base. This represents 12% of the Maximum Permissible Exposure (MPE) of 200µW/cm<sup>2</sup> for uncontrolled environments. There are no other transmitting RF facilities in the area. The applicant will ensure that the site is posted with appropriate RF exposure warning signs. If roof of adjacent building becomes necessary, transmitter power will be reduced or operation will cease, as necessary, so as to not exceed the RF exposure limits.