

STATEMENT REGARDING GRANDFATHERED STATIONS, 2ND AND 3RD ADJACENT FM STATION INTERFERENCE

By Jeremy Lansman¹

LPFM proponents advocate allowing their low power FM stations to operate on second and third adjacent channels within existing stations protected contours, while opponents claim existing rules prohibiting creation of new second and third adjacent stations are needed to prevent interference.

Both sides seem not to have recognized that the Commission has extensive and ongoing experience placing new FM stations well within the protected contour of existing stations. A study of these existing operations should shed light on a contentious issue. In this affidavit, I try to explain why new second adjacent stations were created, and look at a couple of examples.

Grandfathered FM stations may be short spaced, or may be super power, or both. NAB has said that short spaced stations are stations created before spacing requirements were set out in 1963. Strictly speaking, NAB is correct. Stations created since the spacing table was set up must comply with FCC rules. On the other hand, many pre 1963 FM stations operate at powers higher than limits in present FCC rules. Spacing rules do not recognize the super power of these stations. New stations can be placed in the table as though these super power stations were running at normal power. As a result, many new first, second and third adjacent FM stations have been created within the protected contour² of superpower stations.

Nowhere is this more common than in California, zone 1-A³, where the highest power allowed⁴ is 50 kW at 150 meters height above average terrain (HAAT). For example, every Los Angeles FM station transmitting from Mt. Wilson is a super power station.

Mt. Wilson FM station, KCBS has 28.5 kW ERP at 1,066 meters HAAT. The KCBS protected 54 dBu contour distance is 108.9 kilometers. KCBS is a class B station. To give you an idea of just how superpower KCBS really is, what if we lowered it to maximum class B HAAT of 150 meters, but used an ERP that still projects the protected signal 109 kilometers. This hypothetical version of KCBS would have an ERP of **2 million 860 thousand watts!**

Or, suppose KCBS lost its license and a new FM station were to be placed at the KCBS transmitter site under existing rules? What is the maximum power the new class B station would be allowed? Instead of 28,500 watts, the new station would have **only 360 watts.**⁵

When investigating these situations, it is interesting to look at new FM signals placed relatively close by these super power monsters. Of the very many possible examples, I chose to study KRUZ and KBAY. First lets look at KRUZ and KXLM.

¹ I have acted in the capacity of a consultant, and have prepared applications for new FM, NCE-FM, LPTV, and FSTV construction permits for over 25 years. I have been involved in broadcasting since the late 1950's. At one time I was part owner of a facility described herein, KBAY-FM, Gilroy California.

I am presently an owner of the licensee of KYES-TV, Anchorage, Alaska.

² A protected contour value is defined in §73.215 (a) (1). For class B stations, it is 54 dBu.

³ §73.205 Zones

⁴ §73.211 (b)

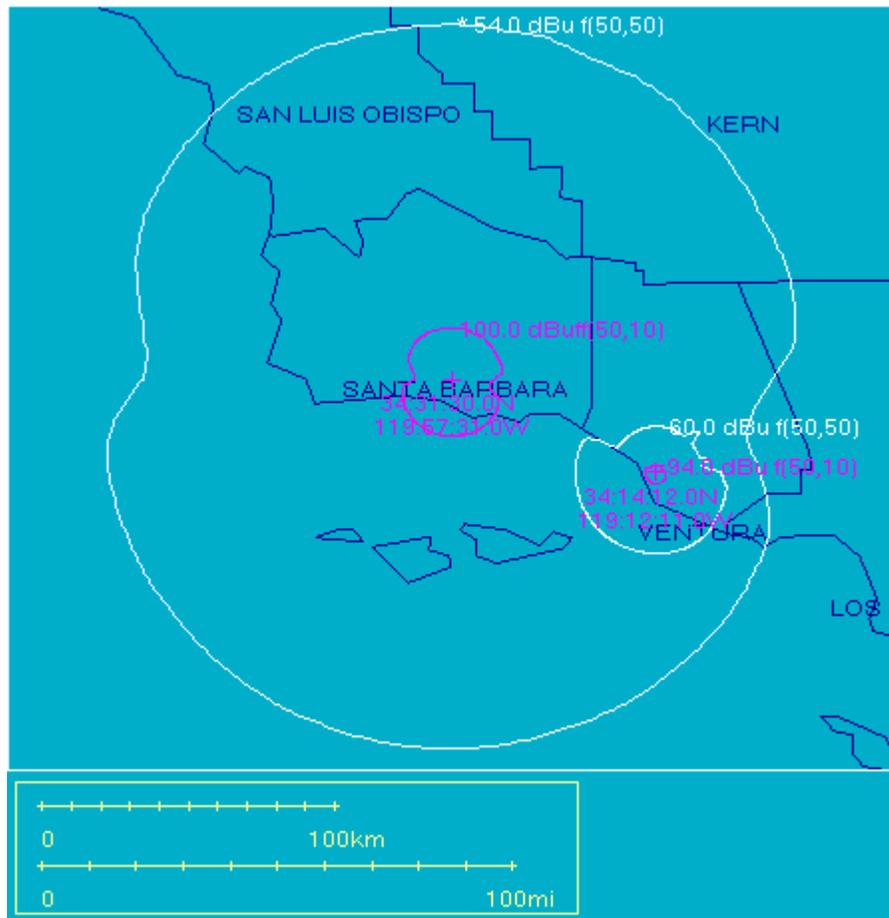
⁵ Maximum class B ERP allows 52 kilometers to a 1 mv/m (f50,50) contour. At 1066 M HAAT ERP is reduced to 360 watts.

KRUZ – 103.3 MHz
File No. BLH6135
Santa Barbara, California
Class B -105kW @ 905 meters HAAT
1 mV/m service contour 103.9 km
.5 mV/m protected contour 120.9 km
Maximum class B power at 905 m HAAT= 820 Watts

KXLM – 102.9 MHz
File No. BLH920624KE
Oxnard, California
Class A – 5.5kW @ 102 meters HAAT
1 mV/m service & protected contour 30.0 km
Distance KRUZ to KXLM 76.5 km (transmitter to transmitter)

Below we show the KRUZ protected 54 dBu (.5 mV/m), KXLM 60 dBu (1 mV/m) protected, KRUZ 100 dBu interfering and KXLM 94 dBu interfering contours.⁶ It is apparent from the graphic that the relationship between super powered KRUZ and second adjacent class A KXLM is not unlike the relationship that could be found between a new LPFM second adjacent and a normally powered FM station.

⁶ These contours are calculated in accordance with § 73.313 and related rule parts. § 73.213 defines protected contours for “grandfathered short spaced stations”, and we have used those values herein, although this particular example is not a “short spaced” station.



KBAY is a relatively new Class B operation in San Jose, California. Until recently KBAY broadcast from Mt. Loma Preita, a 4,100 foot high peak in the Santa Cruz mountains.

KBAY – 94.5 MHz – Mt. Loma Preita
TX location: 37-6-39 NL, 121,50,37 WL
Class B – 1.2 kW @ 773 meters HAAT

About 2 months ago⁷ KBAY relocated its transmitter to a lower site within a populated area of San Jose, upping ERP.⁸

⁷ Estimated date of initial licensed operation obtained from John Higdon, an engineer who was employed in construction of the facility. We have used the FM antenna directional pattern found in the on line FM directional data base to prepare the KBAY coverage map.

⁸ KBAY now transmits from a site approximately ½ mile from suburban residential area. To see a map with a scale of miles, copy the URL below to your clipboard, or navigate to www.census.gov and enter the relevant coordinate information into the tiger mapping system.

<http://tiger.census.gov/cgi-bin/mapsurfer?act=out&outfact=2&map.x=211&map.y=180&lat=37.20798&lon=-121.77562&wid=0.045&ht=0.017&iht=359&iwd=422&&on=CITIES&on=counties&on=majroads&on=places&on=streets&on=interstate&on=ushwy&tlevel=-&tvar=-&tmet=i&mLat=37.20917&mLon=-121.7750&mshwy=blupin&mLabel=KBAY&murl=&conf=mapnew.con>

KBAY – 94.5 MHz – Coyote Peak
File No. BLH990721KG
Transmitter- San Jose, California
Class B -30kW @ 179 meters HAAT

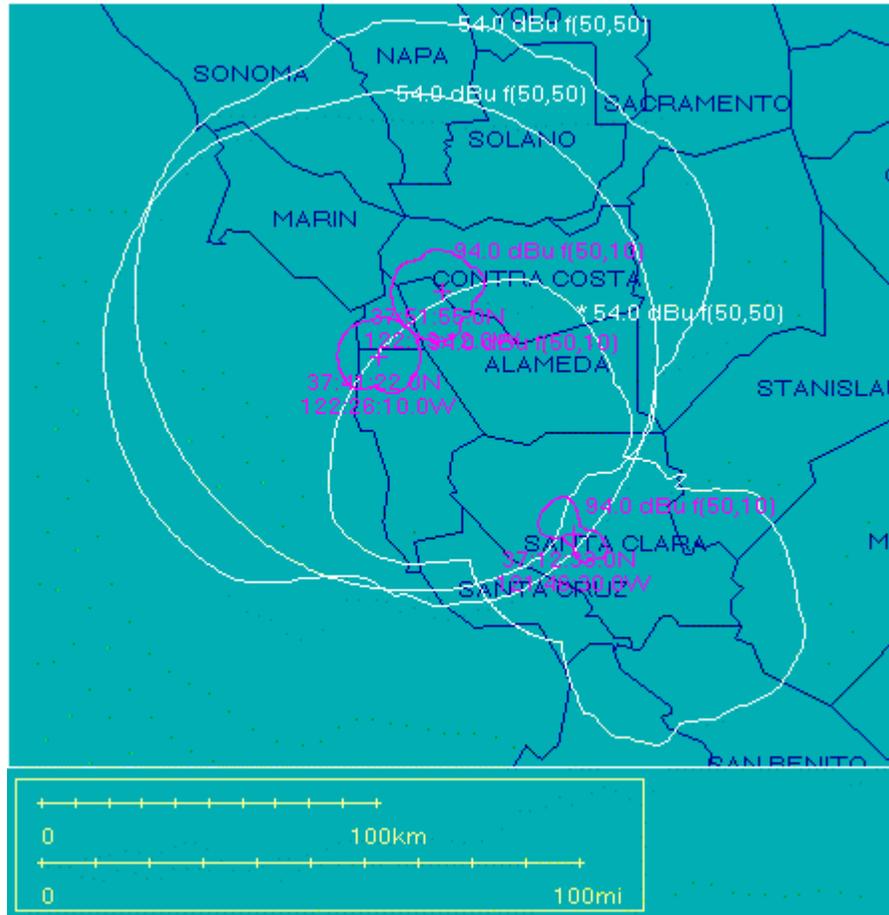
KBAY is second adjacent to two super power stations, KPFA, Berkeley, and KYLD, San Francisco.

KPFA – 94.1 MHz
File No. BLED800930AG
Berkeley, California
Class B -59W @ 340 meters HAAT

KYLD – 94.9 MHz
File No. BLH7071
San Francisco, California
Class B – 30 kW @ 369 meters HAAT

The coverage map below depicts the protected and interfering contours for these three FM stations. You will note extensive contour overlap for all three facilities. The new KBAY facility is located in a populated area of San Jose. Far more persons are now exposed to intense second adjacent field strength from KBAY. Assuming 2nd adjacent interference is a real problem, one should expect a fresh flood complaints of interference to KPFA or KYLD. A recent inspection of FCC files reveals no complaints at all⁹.

⁹ E-mail from Amanda Huron 11/3/99 after inspection of files in FCC public reference room.



These are but few examples. Our intention is simply to supplement the debate regarding second and third adjacent interference, by pointing out that contour overlap of the sort proposed by advocates of LPFM is common, especially in California, and that new facilities creating overlap are continuing to be constructed. This being the case, it would seem prudent to investigate the record of these operations, to determine the impact these situations have had on the listening public.

I certify the statements made above are true complete and correct to the best of my knowledge and belief, and are made in good faith.

Jeremy Lansman
 Broadcast Consultant
 C/o KYES-(TV)
 3700 Woodland Dr., #800
 Anchorage, AK. 99517

Phone: 907-248-5937
 Jeremysl@kyes.com