

ATTACHMENT: Broadcast Station Facilities and Allocation Considerations

I. Broadcast Station Facilities

Modification of KJAI(FM) Facilities

This application is for modification of the facilities of KJAI(FM), Ojai, California, to increase effective radiated power and to change from a directional antenna to a nondirectional antenna. The station will remain on Channel 208A, and no change is proposed in the location of the transmitter site.

It was noted in the preparation of this application that there are small errors in the ground elevation and geographical coordinates in the data in the FCC files for the present operation of the station. The correct NAD83 geographical coordinates and ground elevation for the proposed transmitter site are as follows:

North Latitude: 34° 24' 44.8"
West Longitude: 119° 11' 15.4".

At this site the ground elevation is 858 meters above mean sea level. The proposed height of the antenna radiation center above ground is 28 meters, and the antenna supporting structure extends to an overall height of approximately 30 meters above ground. Antenna height above average terrain would be 404 meters, based on eight evenly spaced radials using the NGDC 30-second terrain database and an interval of 0.2 kilometer between terrain data points.

Service to Principal Community

The proposed modified operation of KJAI(FM) will provide a 60 dBu F(50,50) signal to the entire community of Ojai. This is illustrated in Figure 1 of this Attachment.

The boundary for Ojai was derived from maps contained in the 2020 U.S. Census.

Compliance with Environmental Rules

The proposed operation of KJAI(FM) will continue to utilize an existing wooden pole with a pipe-mount extension as the supporting structure for the station's antenna system. No new tower construction is proposed in this application. There presently are

ATTACHMENT: Broadcast Station Facilities
and Allocation Considerations (continued)

no other FM station antennas; and no LPFM station, FM translator, or communications facilities, installed on the supporting structure. For this application the Sulphur Mountain “antenna farm” is considered as accessible by the general public.

The antenna system for the proposed operation of KJAI(FM) is an Electronics Research LP-2E-HW FM Antenna, which is comprised of two circularly polarized omnidirectional radiating elements mounted in a vertical line and spaced one-half wavelength between elements. The antenna supporting structure is a 27-meter-high wooden pole with a short pipe-mount extension, that reaches to an overall height of approximately 30 meters above ground. The antenna will be side-mounted on this structure with the radiation center located 28 meters above ground.

A study made using the Commission’s “FM Model” program for evaluating radiofrequency radiation levels for the proposed KJAI(FM) antenna system (with the “EPA Type 1” antenna type) shows that for operation at 185 watts effective radiated power the calculated power density levels would not exceed 0.0022 mW/cm^2 , or 1.10 percent of the maximum permissible exposure value of 0.20 mW/cm^2 for uncontrolled exposure situations at 89.5 MHz, at any point at a height of 2 meters or less above ground in the vicinity of the base of the antenna supporting pole. One or more RF hazard warning signs will be posted near the base of the pole.

The applicant will operate the proposed transmitting facilities at reduced power, or temporarily cease operation, as may be required to protect all workers at the mountaintop site from exposure to hazardous levels of radiofrequency radiation.

II. Allocation Considerations

Allocation Study

The proposed operation of KJAI(FM) conforms with the requirements of Section 73.509 of the Commission’s Rules for a Class A station on Channel 208 with respect to overlap of predicted contours with the licensed operation of any pertinent FM station,

ATTACHMENT: Broadcast Station Facilities
and Allocation Considerations (continued)

and the operation of any such facilities specified in a construction permit or pending application, on the same channel, the first adjacent channels and the second adjacent channels, as shown in this Attachment. There are no FM facilities requiring consideration on the third adjacent channels. The proposed operation of KJAI(FM) therefore would not result in objectionable interference to any station.

The FM stations taken into account in the allocation study for this application are listed in Table A of this Attachment.

Figure 2 of this Attachment shows the pertinent predicted contours for the proposed operation of KJAI(FM) and co-channel Class B station KAIB(FM), Shafter, California.

The pertinent predicted contours for the proposed operation of KJAI(FM) and first adjacent channel Class B stations KPCC(FM), Pasadena, California, and KCLM(FM), Santa Maria, California, are shown in Figure 3 of this Attachment.

Figure 4 of this Attachment depicts the pertinent predicted contours for the proposed operation of KJAI(FM) and second adjacent channel Class A station KCRU(FM), Oxnard, California; and Class B station KCRW(FM), Santa Monica, California.

The nearest FM stations on the third adjacent channels are at sufficient distances from the proposed KJAI(FM) site so as not to require further studies with respect to overlap of contours with the proposed operation of KJAI(FM).

On the frequencies 53 and 54 channels removed from Channel 208, there are no FM stations within 50 kilometers of the proposed KJAI(FM) site.

The proposed KJAI(FM) site is within the U.S.-Mexico border zone, at a distance of at least 258.1 kilometers from the Mexico border. Under the "U.S.-Mexico FM Agreement (August 1992)" the required separation between a Class A station in the United States and a co-channel Class C station in Mexico is 210 kilometers. Accordingly, there would be no FM stations in Mexico that require consideration.

There are no full-service television stations on TV Channel 6 that require protection from the proposed operation of KJAI(FM).

ATTACHMENT: Broadcast Station Facilities
and Allocation Considerations (continued)

Methods Employed in Determining Contours

The predicted contours shown in this Attachment were determined in accordance with the requirements of Section 73.313 of the Commission's Rules, from computerized calculations based on the NGDC 30-second terrain database, and Figures 1 and 1a of Section 73.333 of the Rules. Distances to the contours were calculated at azimuthal increments of one degree.

Fred W. Volken
Engineering Consultant

February 2023

Sierra Madre, California

ATTACHMENT: Broadcast Station Facilities
and Allocation Considerations (continued)

III. Statement of Engineer

FRED W. VOLKEN, whose place of business is located in Sierra Madre, California, hereby states that he is a graduate physicist holding the degree Bachelor of Arts from Occidental College, Los Angeles, California; that his qualifications as an engineering consultant are a matter of record with the Federal Communications Commission; that he has prepared, or supervised the preparation of, the accompanying document as engineering consultant for Southern California Public Radio, licensee of FM Broadcast Station KJAI, Ojai, California; and that all of the information contained in this document is accurate and correct to the best of his knowledge and ability.

I state under penalty of perjury that the foregoing is true and correct. Executed on February 27, 2023.


Fred W. Volken

ATTACHMENT:
Broadcast Station Facilities
and Allocation Considerations (cont'd.)

TABLE A
Station Facilities

	Channel and Class	Station and Location, Status, File Number	Geographical Coordinates	Facilities	
				Effective Radiated Power and Antenna	Antenna Height Above Average Terrain (meters)
Co-Channel Stations	208A	Proposed KJAI(FM), Ojai, CA	N 34° 24' 44.8" W 119° 11' 15.4"	0.185 kW Nondirectional	404
	208A	KJAI(FM), Ojai, CA License BLED-20030305AAI	N 34° 24' 44.9" W 119° 11' 19.3"	0.097 kW Directional	403
	208B	KAIB(FM), Shafter, CA License BLED-20061030AAY	N 35° 36' 52.8" W 119° 28' 19.4"	50.0 kW Directional	109
First Adjacent Channel Stations	207B	KPCC(FM), Pasadena, CA License BMLED-20090309ABE	N 34° 13' 36.0" W 118° 04' 01.2"	0.6 kW Nondirectional	891
	209B	KCLM(FM), Santa Maria, CA License BLED-20130612ABN	N 34° 54' 36.9" W 120° 11' 11.5"	2.45 kW Directional	569
Second Adjacent Channel Stations	206A	KCRU(FM), Oxnard, CA License BLED-20040422ABU	N 34° 06' 47.0" W 119° 03' 37.4"	0.85 kW Directional	260
	210B	KCRW(FM), Santa Monica, CA License BLED-19810325AF	N 34° 07' 08.0" W 118° 23' 33.3"	6.9 kW Nondirectional	338







