Approved by GAO
B-180727 (R0465)

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

FM

APPLICATION FOR AN FM BOOSTER STATION LICENSE

/L

(For Commission Use Only)
File No.
BLFTB- 831121NF

INSTRUCTIONS

A. This form is to be used in all cases when applying for an FM Booster Station License.

B. Prepare and file three copies of this form and all exhibits with the Federal Communications Commission, Washington, D. C. 20554.

C. Number exhibits serially in the space provided in the body of the form and list each exhibit in the space provided on page two of this form.

D. The name of the applicant must be stated exactly as it appears on the construction permit which is being covered.

E. Information called for by this application which is already on file with the Commission need not be refiled in this application provided (1) the information is now on file in another application or FCC form filed by or on behalf of this applicant, (2) the information is identified fully by reference to the file number (if any), the FCC form number, and the filing date of the application or other form containing the information and the page or paragraph referred to, and (3) after making the reference the applicant states "No change since date of filing". Any such reference will be considered to incorporate into this application the application or other form referred to in its entirety. Do not incorporate by reference any material which is not to be open to the public.

F. This application shall be personally signed by the applicant, if the applicant is an individual; by one of the partners, if the applicant is a partnership; by an officer, if the applicant is a corporation; by a member who is an officer, if the applicant is an unincorporated association; by such duly elected or appointed officials as may be competent to do so under the laws of the applicable jurisdiction, if the applicant is an eligible government entity; or by the applicant's attorney in case of the applicant's physical disability or of his absence from the United States. The attorney shall, in the event he signs for the applicant, separately set forth the reason why the application is not signed by the applicant. In addition, if any matter is stated on the basis of the attorney's belief only (rather than his knowledge), he shall separately set forth his reasons for believing that such statements are true.

BE SURE ALL NECESSARY INFORMATION IS FURNISHED AND ALL PARAGRAPHS ARE FULLY ANSWERED. IF ANY PORTIONS OF THE APPLICATION ARE NOT APPLICABLE, SPECIFICALLY SO STATE. DEFECTIVE OR INCOMPLETE APPLICATIONS MAY BE RETURNED WITHOUT CONSIDERATION.

H. NO PUBLIC NOTICE IS REQUIRED FOR A LICENSE APPLICATION.

1. Name of applicant (See Instruction D)
Southwest Broadcasting Co., Inc.

Street Address
P. O. Box 390

City: Redlands | State: Ca. | ZIP Code: 92373

2. Name and address of person to whom communications should be sent, if different from item 1.

Name
Same as above

Street Address

City | State | ZIP Code

1. Facilities authorized by construction permit

Channels: 244A
Frequency: 96.7 MHz
Booster Number: KCAL-FM1

Principal community or area to be served (include all principal communities or areas shown on construction permit)
Twin Peaks, Blue Jay Lake Arrowhead

State: Ca.

2. Construction permit covered by this application

File number: BMPFTB-830812QL
Date of Construction Permit: Sept. 7, 1983
Construction begun: Mar. 1983 under BMPFTB-830318MM
Construction completed: 11-4-83

Is the station now in satisfactory operating condition and ready for regular operation? If not, explain. X YES ( ) NO

Apart from the apparatus constructed, have all the terms, conditions and obligations set forth in the above-described construction permit been fully met? If "No" state exceptions. X YES ( ) NO

FINANCIAL DATA

3. Cost of station

a. Give actual cost of construction of booster station
$10,213.14

b. Have there been any substantial changes in the financial data submitted with the application for construction permit? YES X NO

c. If answer to Question 4b is yes, submit as Exhibit No. ____ a statement outlining such changes.

(An old 1977 edition of this form may still be used.)

FCC Form 349-1
October 1977

FCC Form 340-L

ENGINEERING DATA

4. Facilities authorized in construction permit

Output Channel No.	Transmitter Output Power	Principal Community or Area to be served:	Primary Station:
244	10 W	City: Twin Peaks / Blue Jay	Call: KCAL Channel No. 244A
Frequency: 96.7 MHz		State: Lake Arrowhead / California	City: Redlands
			State: Ca. Frequency: 96.7 MHz

5. Transmitter location

City	County	State
Near Rim Forest	San Bernardino	California

Address or other description of location: Strawberry Peak approx. 0.5 Mi. west of Rim Forest, Ca.

Geographical coordinates of transmitting antenna to nearest second

North Latitude	West Longitude
34° 13' 50"	117° 14' 00"

6. Does the apparatus constructed, the transmitter location, or mode of operation differ from that described in the application for construction permit or in the permit issued by the Commission? [X] YES [ ] NO

If "Yes", describe in detail, by attaching Exhibit No. A, the nature of changes, particularly with regard to type of transmitter, transmitting antenna, antenna orientation, transmission line, or increase in overall height above ground of either the transmitting or receiving antenna structure. Show recomputation of effective radiated power resulting from any such changes.

7. If antenna obstruction painting and lighting specifications were made a part of the construction permit, have same been installed as prescribed and in proper working order? [ ] YES [ ] NO

If "No", explain in Exhibit No. , attached. [X] NONE REQUIRED

8. Give name, address, ZIP Code, and telephone number of person(s) to contact if transmitter must be turned off in event of emergency:

James Fakas
Greenspot Road
East Highlanda, Ca. 92373
(714) 825-5020

The APPLICANT hereby waives any claim to the use of any particular frequency or of the ether as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934.)

The APPLICANT represents that this application is not filed for the purpose of impeding, obstructing, or delaying determination on any other application with which it may be in conflict.

The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations, and that all the exhibits are a material part hereof and are incorporated herein as if set out in full in the application.

CERTIFICATION

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

→ Signed and dated this 14th day of Nov, 19 83

(NAME OF APPLICANT)

By (SIGNATURE)

Title

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND IMPRISONMENT. U. S. CODE, TITLE 18, SECTION 1001

FCC NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT

The solicitation of personal information requested in this application is authorized by the Communications Act of 1934, as amended.

The principal purpose(s) for which the information will be used is to determine if the benefit requested is consistent with the public interest.

The staff, consisting variously of attorneys, accountants, engineers, and application examiners, will use the information to determine whether the application should be granted, denied, dismissed, or designated for hearing.

If all the information requested is not provided, the application may be returned without action having been taken upon it or its processing may be delayed while a request is made to provide the missing information. Accordingly, every effort should be made to provide all necessary information.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U. S. C. 552a (e) (3).

EXHIBITS furnished as required by this form:

EXHIBIT NO.	PARA. NO. OF FORM	NAME OF OFFICER OR EMPLOYEE(1) BY WHOM OR (2) UNDER WHOSE DIRECTION EXHIBIT WAS PREPARED (SHOW WHICH)	OFFICIAL TITLE
A	6	Joel G. Bump	Technical Consultant

EXHIBIT A
APPLICATION FOR LICENSE
FM BOOSTER 96.7 MHz
SOUTHWEST BROADCASTING CO, INC.
November, 1983

The equipment installed is a Robert Jones booster and power amplifier panel, with equipment and model numbers as specified in the application for construction permit. The equipment was manufactured by Tepco.

During short periods of construction testing, it was discovered, although extreme care was exercised in the original layout of antennas, their placement, and shielding between the transmit and receive antennas, that audio performance of the booster was slightly affected by two factors.

First, the necessary location of the receive antenna at the site places it within 200 feet of a commercial FM transmitting antenna, and within approximately 4.0 miles of a class B and two other class A FM broadcast transmitting antennas. Additionally, the booster site is heavily populated with microwave and two way radio stations. The intensity of various signals entering the booster down-converter through the receive antenna resulted in a minor, but discernible level of noise to be broadcast by the booster. In order to optimize the booster operation, a 96.7 MHz bandpass filter was constructed by Tepco and was installed between the booster receive antenna and the down-converter. The installation of this filter eliminated the rebroadcast of unwanted noise by the booster.

Second, due to the known inherent difficulty of installing a stable, properly operating FM booster, evaluations of the booster operation were made under different atmospheric conditions. It must be noted that following the commencement of construction, a new building was erected at the site at a bearing of about 90° from the proposed

axis of the booster transmitting antennas, and about halfway between the transmitting and receiving antennas. Our evaluation under varying atmospheric conditions was spurred by the possibility that due to the orientation of the new building face, it was conceivable that a slight amount of our transmitted signal could be reflected toward the vicinity of our receive antenna, resulting in a discernible audio distortion of the transmitted signal from the booster. With comparisons of the booster alternately terminated into the transmitting antennas and into a 50 Ohm dummy load, it was found that normal booster operation resulted under cold, still atmospheric conditions. These observations consisted of both evaluation of audio for distortion, and measurement of amplitude modulation components resulting from transmit to receive antenna feedback. However, when an atmospheric inversion formed, as is common to this area, the receive antenna was sensitive to the transmitted signal. A special bracket was fabricated permitting re-orientation of the receive antenna at any bearing or polarization. Countless orientation adjustments were tried without any material result. A similar bracketing assembly was then fabricated to outfit the transmitting antennas for similar adjustment, since tower space and mounting limitations as shown in the application for construction permit preclude any antenna changes to increase the directivity of the transmitting antennas. In order to reduce the side radiation toward the face of the new building, the orientation of the transmitting antennas was set at 5°T. Thorough reevaluation of the operating system yielded stable operation and any transmit to receive antenna feedback eliminated under all conditions. Subsequent field observations have shown that multipath distortion in the south Lake Arrowhead area resulting from reflections in intervening terrain was considerably lessened, resulting in improved service to that area. A significant improvement was also noted in the west Twin Peaks area. The third community to be served, Blue Jay, was unaffected by the minor shift in antenna orientation. The transmit antennas were then securedat a bearing of 5°T. In view of the improved

service in the proposed service area, and of this showing as to the stability and quality of the rebroadcast signal, it is respectfully requested that the license reflect the orientation of 5°T for the transmitting antenna array.

11-4-83

Joel G. Bump
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