

APPLICATION FOR STATION LICENSE
KCRU - OXNARD, CALIFORNIA
BPED-19970127ID

ENGINEERING STATEMENT

The directional transmitting antenna consists of three Kathrein-Scala circularly polarized Yagi antennas, Model CA5-FM/CP/RM. The azimuth headings of these three antennas are 15°, 225° and 310°.

The construction permit imposes certain special operating conditions or restrictions, which are discussed below:

1. Attachment A is an affidavit from Shivley Labs, detailing the establishing of the horizontal and vertical azimuth antenna patterns. This affidavit is being submitted to satisfy the construction permit's special conditions #1 & 4.

2. Attachment B is an affidavit from Mark W. Shadburn, Licensed Land Surveyor in the State of California, certifying that the antenna array is at the proper location and that the azimuth headings of each of the three antennas that comprise the antenna array are pointing in the proper direction. This affidavit is being submitted to satisfy the construction permit's special condition #2.

3. Attachment C is an affidavit from Tom King, an expert in the field of FM broadcast antenna installations, certifying that the antenna array was installed according to the antenna manufacturer's instructions. This affidavit is being submitted to satisfy the construction permits special condition #3.

4. To support the requirement of special condition #4, that neither the measured horizontally nor vertically polarized radiation component of the composite antenna pattern exceeds the radiation pattern authorized by the construction permit, the following is submitted. Attachment D (Figure 1) is a plot of the 60 dBu field strength of the authorized construction permit composite antenna pattern (marked as CP 60 dBu) and the measured HORIZONTALLY polarized antenna pattern (marked as LICENSE 60 dBu). Except at the coast line, where the two contours are tangential, the measured pattern never exceeds the authorized pattern.

Similarly, Attachment E (Figure 2) is a plot of the 60 dBu field strength of the authorized construction permit composite antenna pattern (marked as CP 60 dBu) and the measured VERTICALLY polarized antenna pattern (marked as LICENSE 60 dBu). Except at a point over the Pacific Ocean, where the two contours are tangential, the measured pattern never exceeds the authorized pattern.

The last requirement of special condition #4 is that the measured antenna array not exceed certain power limits in specified directions, which is addressed in the affidavit from Shivley Labs (Attachment A).

5. Special condition #5 is addressed in Exhibit 6 of FCC Form 302-FM.

6. Special Condition #6: The applicant has installed the necessary RFR field hazard signs at the transmitting site. Attachment F is an affidavit from Steven Herbert, Chief Engineer for KCRU, describing these signs and where they have been placed. There is also a description of what measures have been taken at the site to restrict access to areas where the radio-frequency radiation might exceed FCC guidelines.

7. Special Condition #7: Santa Monica Community College District, in coordination with other users of the site, has agreed to reduce power or cease operation, as necessary, to protect persons having access to the site, tower or antenna from radio-frequency electromagnetic fields in excess of FCC guidelines. This is also addressed in Mr. Herbert's affidavit, noted above (Attachment F).