

## Engineering Statement

### Exhibit 11A

Lazer Broadcasting Corp. is proposing to construct a booster on a KCAL AM night time tower located at 34-06-37.83 -117-09-15.04 (NAD83) (ARS#1045134) for FM Broadcast Station KXSB, Big Bear, California FI#43999. KCAL AM is owned by Lazer Broadcasting as well as KXSB. Lazer Broadcasting is planning on making a minor modification of AM station KCAL in the very near future, and it would be most practical if this proposed booster were constructed simultaneously with the modifications to KCAL. This would afford a single proof of performance for the AM facility with the introduction of the FM booster on one of the towers.

A coverage map, Exhibit 11B, has been provided demonstrating that the proposed booster station 60dBu service contour will be entirely within the 60dBu of KXSB. An explanation as to why this booster is being proposed: The antenna location for KXSB is very high in elevation and suffers from terrain obstruction into the booster area of the market. This proposed booster would fill in the areas where the primary station performs poorly or not at all. There are some areas in which the booster will, potentially interfere with the primary station. Lazer Broadcasting is proposing to utilize available technology which will phase lock the exciters of the primary station and the booster, as well as adjusting the delay of the audio from the proposed booster to minimize the interference caused to the reception of either transmitter. A differential study was done which demonstrated that the capture ratio of most receivers would limit the interference to a fairly small area. With the current technology, this interference can be further reduced to a level which would make this proposed booster beneficial to listeners in all but a very small portion of the coverage area of both the main and the booster.

The antenna proposed is a combined pattern of two off-the-shelf Kathrein (Scala) 5 element CP yagi antennas. Model # CA5-FM/CP. The two antennas are at a heading of 150 degrees and 235 degrees. The 150 degree antenna will operate at 66% power while the 235 degree antenna will operate at 33% power. The antenna pattern of the two combined antennas was provided by Kathrein Scala. The gain of the combined array is 4.5 dBd with a power gain of 2.8. The proposed booster ERP would be 500 watts CP. The antenna is to be mounted at 50 meters AGL. With a center of radiation of 489 meters AMSL.

The synchronies transmitters will be from Nautel. The transmitter for KXSB will be replaced and a Nautel transmitter will be utilized for the booster as well. These

transmitters have the capability to be phase locked to GPS to provide exactly the same frequency. A built in digital audio delay will afford the adjustment necessary to reduce the interference area to an absolute minimum.

A proof of performance for AM station KCAL, will be performed after the installation of the proposed booster antenna. This will be accomplished at the same time as the modifications, which are proposed to take place for KCAL AM, in a separate filing.

Respectfully Submitted,

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