TECHNICAL SUMMARY

RADIO STATION KCLU
SANTA BARBARA, CALIFORNIA
1340 KHZ, 0.74 kW-D, 0.7 kW-N, U

1. KCLU is licensed for operation at Santa Barbara, CA, at a frequency of 1340 kHz with a nominal non-directional power of 0.65 kW during daytime and nighttime hours.*

2. The instant application is to reduce the height of the KCLU antenna tower element, which is necessary due to structural concerns. It is proposed to install top-loading to help mitigate to some extent the negative performance effects of the shortened antenna.

3. The facility will continue to employ the same reduced ground system as now licensed, which consists of 120 equally spaced, buried, copper radials 45.7 meters in length, plus a 9.1 m x 9.1 m ground screen about the base of the tower. This ground system has an average electrical length of 0.2052 wavelength at 1340 kHz.

4. For a ground system with an average length of 0.2052 wavelength, the antenna ground system efficiency correction factor is given by Figure 8 of Section 73.190 of the FCC Rules to be -12.9 mV/m @1 km for 1 kW power.

5. The proposed top-loaded antenna has a theoretical antenna efficiency of 291.8 mV/m @ 1 km for 1 kW power based on a standard quarter-wave ground system. Considering the adjustment for the reduced ground system, the antenna efficiency factor for the proposed antenna system is calculated to be 278.9 mV/m @ 1 km for 1 kW power.

6. In order to maintain the same equivalent antenna efficiency factor for the proposed facility as for the licensed 0.65 kW facility, the proposed nominal daytime power was adjusted to 0.74 kW.

7. In order to maintain compliance with the nighttime interference protection requirements for the shorter antenna element, it was necessary to specify the proposed nominal nighttime power at a slightly reduced level of 0.7 kW.

* See FCC File No. BML-20080707ALA.

8. It is noted that the KCLU antenna system is licensed and grandfathered for operation utilizing a shunt-fed slant-wire type feed system. Whilst the proposed antenna tower will be reduced in height, it will continue to be fed utilizing the same type of shunt-fed system as now licensed.

9. The proposed facility complies with the requirements of 47 C.F.R. Sections 73.37, 73.182 and 73.187. The proposed operation does not involve overlap of signal strength contours with other stations where there is not already such overlap. Since this proposal involves no change in the daytime theoretical RMS and no change in site location, no daytime allocation studies are needed to demonstrate continuing compliance with the FCC Rules.[†]

10. It is noted that the antenna system is, and will continue to be, shared with the following stations, both also licensed to Santa Barbara:

a. KZSB, 1290 kHz, Facility ID = 57731
b. KOSJ, 1490 kHz, Facility ID = 61712

Proper filtering and isolation circuitry shall continue to be employed for the modified shunt feed system to avoid any intermodulation issues and to ensure FCC compliant emission performance.

11. The modified tower structure will have an overall height of 40 m above ground level (46.1 m AMSL). Based on an FCC 'TOWAIR' analysis, the modified tower structure does not require registration. The TOWAIR determination results are attached herewith as an exhibit. There are no structure marking and lighting requirements.

[†] It is noted that the geographic coordinates of the tower location are specified to a higher precision of 0.1 second of latitude and longitude. But the specified site coordinates remain within +/-1 second of the KCLU licensed geographic coordinates.