

ENGINEERING REPORT
Requesting a Minor Change to
KFLQ(FM) – Albuquerque, NM
Channel 218C (91.5 MHz)
File No. BLED-19830225AB

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Exhibit 22.1 – RF Radiation Study

(Exhibit Numbering is in response to FCC Online Form 340, Section VII)

DISCUSSION OF REPORT

This firm was retained to prepare the required engineering report in support of a minor change to Non-Commercial Station KFLQ, Albuquerque, NM, File No. BLED-19830225AB. Currently KFLQ(FM) is licensed to operate on Channel 218C with 22.5 kW at 1237 meters HAAT utilizing a non-directional antenna. This minor change seeks the authority to relicense (*see Exhibit 1*) KFLQ with 20.0 kW ERP while utilizing an alternate four-bay half-wave spaced non-directional antenna mounted at 3252 meters AMSL.

At the request of the U.S. Forest Service and the FCC, the Sandia Crest Electronics Site, in which KFLQ is located, was inspected on May, 16, 1995 regarding overexposure to RF Radiation. As a result, KFLQ, along with a number of other facilities, were deemed to be contributing factors. KFLQ was advised by the Sandia Crest Electronics Site engineering firm of Hammett & Edison to replace its transmitting antenna with a less offensive radiator and reduce power from 22.5 kW to 20.0 kW. Former KFLQ staff proceeded immediately with this replacement per this advisement. In November of 1995, the KFLQ two bay antenna was replaced with a four bay ERI G5CCPS-4AE-HW (half wave spaced) antenna. Post RF Radiation tests were conducted on October 22-23, 1996 and submitted to the FCC showing compliance with RF limits. Within this RF Radiation report (*see Exhibit 22.1*), statements by the Hammett & Edison engineers confirm the KFLQ antenna replacement and reduction in RF radiation. At this time, KFLQ is supplying the relevant information in support of the November 1995 antenna replacement. The antenna replacement included a slight increase in AGL height and a decrease in ERP power. The net result is an inconsequential loss to the coverage area as seen in *Exhibit 13.4*.

The proposed operation meets all the contour protection requirements towards other stations in the allocation. A tabulation of the proposed protections to each of the relevant stations is found in *Exhibit 15.1*. The station, operating as proposed, does not create or receive any contour overlap or interfere with the protected contours of any station, authorized or pending facility or vacant allotments. There are four (4) other facilities, existing or proposed, close enough to the transmitter site to require further study. FMCont™ maps of the relevant protected and interference contours have been supplied as *Exhibit 15.2*. It is believed there is sufficient clearance to preclude the need for further study with respect to the other protected stations shown in the allocation study. Full protection will be afforded to all stations. Tabulations for each contour employed will be supplied to the FCC upon request.

The transmitter site proposed in this application is outside the affected radius of all Channel 6 television stations. No additional studies are needed.

The proposed service contours have been calculated in accordance with the Rules, and the data obtained has been tabulated and plotted in this report. The plotted contours are found as *Exhibit 13.4* of this report. This exhibit shows the overall service that is provided by the 1.0 mV/m contour of the facility. The tabulation of the distances to the respective contours shown in this discussion is based on the use of the standard eight cardinal bearings, which were also used for the computation of the HAAT.

DISCUSSION OF REPORT (continued)

A slight correction of site elevation is also being proposed to correspond with other licenses co-located on the tower. This error resulted from the original KFLQ application rounding the site elevation to the nearest 10 meters. These corrections will result in a calculated HAAT of 1232 meters.

The antenna is mounted on an existing tower which does not require FCC Antenna Structure Registration.

The remainder of the information in this report and exhibit numbering is responsive to the Rules of the Commission, and provides the data for FCC Form 340.

The FM Broadcast facility proposed in this application will not produce human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1310 of the Commission's rules. **Exhibit 22.1** is a copy of RF measurements taken to show compliance. The facility is properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates. Any other means as may be required to protect employees and the general public will be employed.

In the event work would be required in proximity to the antenna such that the person or persons working in the area would be potentially exposed to fields in excess of the guidelines set forth in OET Bulletin No. 65 (Edition 97-01), the transmitter power will be reduced or the station will cease operation during the critical period.

DISTANCES TO CONTOURS: The table below shows the distances to the 1.0 mV/m contour from the proposed facility using an ERP of 20.0 kW at an HAAT of 1232 meters. These distances have been calculated based on the FCC F(50-50) curves.

| Munn-Reese, Inc. - Coldwater, MI 49036 N. Lat. = 35 12 51 W. Lng. = 106 27 02 HAAT and Distance to Contour - FCC Method - 03 Arc Sec. | | | | | | |
|---|--------|--------|---------|-------|-------|-------|
| Azi. | AV EL | HAAT | ERP kW | dBk | Field | 60-F5 |
| 000 | 2081.8 | 1170.2 | 20.0000 | 13.01 | 1.000 | 90.27 |
| 045 | 2032.7 | 1219.3 | 20.0000 | 13.01 | 1.000 | 91.06 |
| 090 | 2156.2 | 1095.8 | 20.0000 | 13.01 | 1.000 | 88.96 |
| 135 | 2362.4 | 889.6 | 20.0000 | 13.01 | 1.000 | 84.65 |
| 180 | 2265.8 | 986.2 | 20.0000 | 13.01 | 1.000 | 86.77 |
| 225 | 1765.7 | 1486.3 | 20.0000 | 13.01 | 1.000 | 94.76 |
| 270 | 1691.3 | 1560.7 | 20.0000 | 13.01 | 1.000 | 95.43 |
| 315 | 1804.8 | 1447.2 | 20.0000 | 13.01 | 1.000 | 94.33 |
| Ave El= 2020.10 M HAAT= 1231.90 M AMSL= 3252 M | | | | | | |