ENGINEERING REPORT

Installation of FM Translator Antenna on KGBA(AM) Antenna Tower

KGBA(AM), Heber, California

This Engineering Report has been prepared for The Voice of International Christian Evangelism, Inc., licensee of AM Station KGBA, Heber, California. The Report is to be submitted to the Federal Communications Commission in connection with this application to return to direct measurement of power, to show that the KGBA(AM) nondirectional antenna is operating properly subsequent to installation of the side-mounted FM directional antenna for FM Translator K263CC, Heber, California, on the KGBA(AM) antenna tower.

KGBA(AM) operates on 1490 kHz with 1.0 kW power employing a nondirectional antenna during daytime and nighttime hours. The antenna tower is configured as a simple series-fed vertical radiator.

The single-bay FM directional antenna for K263CC has been side-mounted on the KGBA(AM) antenna tower, near the top of the tower, as authorized in the K263CC construction permit, File Number BNPFT-20180508ABF. The outer conductor of the associated coaxial cable transmission line on the tower is electrically bonded to the tower structure, and this coaxial cable is connected to an appropriate isolation device at the tower base to minimize any effect on operation of the tower as a series-fed vertical radiator.

Figure 1 of this Report is an elevation drawing of the KGBA(AM) antenna tower, and depicts the location of the FM translator antenna.

Upon completion of the installation of the side-mounted FM directional antenna on the tower, the antenna input impedance measurement for the KGBA(AM) antenna tower was made on March 20, 2023, by Mr. Burt Weiner, an experienced radio engineer familiar with making such measurements. The equipment utilized for the impedance measurement was a Delta Electronics Model OIB-3 Operating Impedance Bridge, serial number 179. A resistive component of 52.0 ohms and an inductive reactance component of 64 ohms were obtained in the measurement work, yielding an antenna current value of 4.38 amperes for 1.0 kW antenna input power.

The undersigned engineer provided guidance and supervision for this project, by phone and by exchanges of e-mail messages and photographs.

Fred W. Volken
Engineering Consultant

March 2023 Sierra Madre, California

Statement of Engineer

FRED W. VOLKEN, whose place of business is located in Sierra Madre, California, hereby states that he is a graduate physicist holding the degree Bachelor of Arts from Occidental College, Los Angeles, California; that his qualifications as an engineering consultant are a matter of record with the Federal Communications Commission; that he has guided and supervised the work described in this document as engineering consultant for The Voice of International Christian Evangelism, Inc., licensee of AM Broadcast Station KGBA, Heber, California; and that all of the information contained in this document is accurate and correct to the best of his knowledge and ability.

I state under penalty of perjury that the foregoing is true and correct. Executed on March 24, 2023.

Fred W. Volken

Fred W. Volken

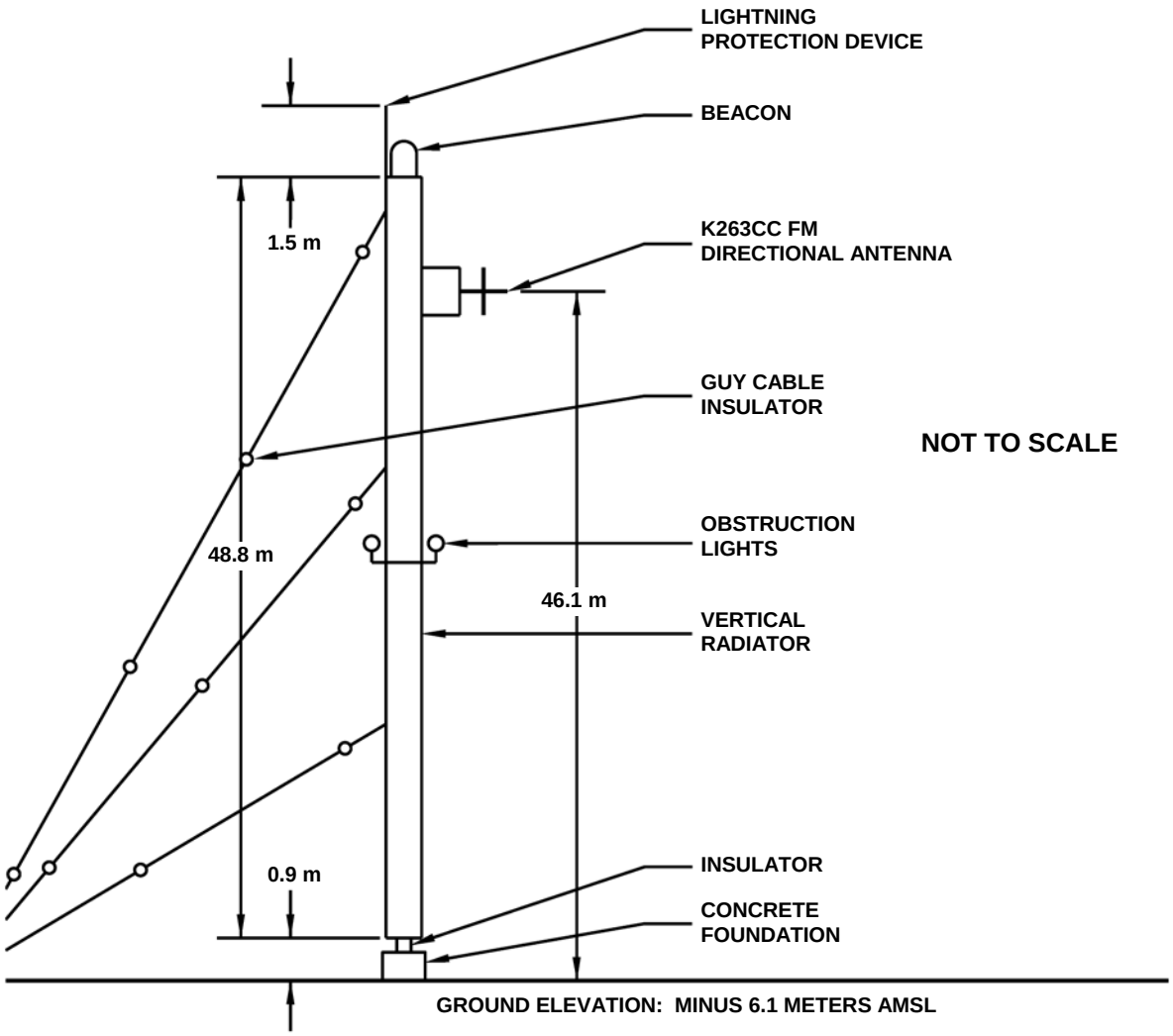

FIGURE 1

Elevation Drawing
of Antenna Structure

March 2023