

KLEIN BROADCAST ENGINEERING, L.L.C.

dedicated to improving the science of radio and television communications

NOVEMBER 2006

EXHIBIT E-10RHS
FCC FORM 302-FM APPLICATION
FOR FM BROADCAST STATION LICENSE
K W I E, L.L.C.
K W I E (FM)
(FCC FACILITY ID# 25809)
FM CHANNEL 241 A / 96.1 mHz.
SAN JACINTO , CALIFORNIA

RF RADIATION HAZARD COMPLIANCE STATEMENT

The facilities proposed herein by the applicant, permittee or licensee, in this Engineering Exhibit comply with FCC O.S.T. Bulletin #65 and #65A as revised (1997) and the ANSI C-95.1-1982 RF and ANSI C95.1992 and the NCRP exposure guidelines. The interpolation of the figures from the above referenced document, page 18, supplement "A", shows a WORST case requirement of 7.9 meters height above ground level requirement for the radiation center of the installed two (2) bay half wave length spaced FM broadcast antenna. A combined vertical and horizontal effective radiated power of 2.80 kilowatts was used for this study and determination (1.40 kW Horiz. & 1.40kW Vert.) The radiation center of the FM broadcast antenna system is at 52 meters above ground level (AGL), well within the requirement for the antenna as determined from the above referenced documents. The antenna specified for use is an Electronics Research, Inc., model SHPX-2AE-HW, EPA Type 3, two (2) section, 0.5 wave length spaced, circularly polarized antenna. The antenna manufacturer, Electronics Research, Inc., states its antenna meets the BEST case requirements for downward radiation pattern according to the FCC O.S.T. Bulletin #65 Guidelines. The antenna proposed uses no beam tilt and no null fill. The applicant has installed an antenna with half wavelength spacing to greatly reduce the downward radiation at and around the proposed site.

Occupational compliance is certified by the reduction of operating power or the complete cessation of operation during such time maintenance personnel are on the antenna support structure. A transmitter "LOCK OUT" circuit has been installed to prevent accidental turn on of the transmission equipment during the time maintenance personnel are on the antenna support structure. The applicant, permittee or licensee will cooperate with other site users in order to comply with The FCC Guidelines on Human Exposure to Non-Ionizing RF Radiation.

In addition to the preceding the applicant, permittee or licensee, has by computer program, performed additional calculations to predict RF power density at the base of the antenna support structure. This program predicts a maximum power density of 3.3276 uWatts/cm² at a distance of 102 meters from the base of the antenna support structure at a height of 2.0 meters above ground level. This is less than 1.7 percent of the allowable RF power density for Uncontrolled areas under the FCC and ANSI/EPA Guidelines, being limited to: 200.0 microwatts/cm² for Uncontrolled areas and 1.00mW/cm² or (1,000 microwatts/cm²) for Controlled areas (areas within fencing). All other power density was calculated to be below this maximum predicted level for a distance of 0 to 1000 meters distance from the base of the antenna support structure at 2.0 meters above ground level. There are no other sources of RFR on the KWIE(FM) site.

The computer program employed for the RFR analysis in this engineering exhibit uses either the Near Field or Far Field method for the calculation of power density and was written by the Commission's O.E.T. staff. In this particular case the Far Field Method was used. The formula used by the computer program was derived from the FCC O.S.T. Bulletin #65, as revised to date.

The formula may be stated in the following manner:

$$E(V/m) = 1.6 * 221.72 * \text{SQRT}(\text{ERP}) * (\text{element pattern factor}) * (\text{array factor}) / \text{DIST}$$

$$H(A/m) = 1.6 * 0.588 * \text{SQRT}(\text{ERP}) * (\text{element pattern factor}) * (\text{array factor}) / \text{DIST}$$

Where:

ERP = effective radiated power in kilowatts, relative to a half wave dipole.

DIST = distance in meters from the antenna radiation center to the observation point in meters.

The 1.6 factor found in the ANSI/EPA formula and used above at the beginning of each equation takes into account possible contributions from ground reflections. The element pattern factor in a linearly interpolated relative field value at the appropriate depression angle below the horizon as taken directly from the EPA data. The array factor is computed at the appropriate depression angle using the number of antenna elements, when normalized to 1.0 in the main lobe. This array factor only applies to antenna arrays of point sources where each source has equal power distribution and phase, and are uniformly spaced. The element patterns themselves can be associated with particular antenna designs. As of May 1986 there were six (6) element types identified for FM antennas as listed in the ANSI/EPA data and FCC Bulletin #65. The "crossed ring" EPA Type 3 element is used on the Electronics Research, Inc., model SHPX-2AE-HW, EPA Type 3 is listed in the EPA data and was used for the calculations contained herein. There were two types listed for television, one for VHF and one for UHF.

The General Public will not have access to the site because the site is in a rural mountainous area.

The site may only be accessed via a single four wheel drive dirt road. The tower base at the communications site is protected by an eight foot high chain link and barbed wire fence with a locked gate. The actual antenna support structure base is protected by this locked gate and fence. The locked gate and fence is installed around the entire perimeter of the base of antenna support structure and transmission equipment building. Only authorized personnel have access to the locked gate. This will prevent General Public access to the actual site.

The applicant/licensee, has installed and posted RF Radiation Hazard Warning Signs in and around the site at approximately eye level for additional warning and safety.

A vertical pattern plot of the Electronics Research, Inc., model SHPX-2AE-HW (EPA Type 3) antenna employed at KWIE(FM) is included with this exhibit and is marked Exhibit E-10 Figure 1. This plot clearly shows this antenna has greatly reduced downward radiation and meets the BEST case requirements of FCC Bulletin #65, as amended to date. The plot marked Exhibit E-10 Figure 2. is a plot of the actual calculated power density in microwatts/cm² vs. distance. This plot shows the calculated maximum predicted power density of 3.3276 uW/cm² occurring at 102 meters distant from the base of the antenna support structure (1.663% of the allowable limit for uncontrolled areas, being 200.0 uW/cm²). It also shows, graphically, that all other calculated power density RFR levels are below this maximum between 0 meters and 1000 meters distant from the base of the antenna support structure.

The preceding assures compliance with the FCC, ANSI and NCRP requirements. Based on the preceding documents, tables, guidelines and calculations, the operation of the main transmission facility for KWIE(FM) FM Broadcast Station is in compliance with the FCC O.S.T. Bulletin #65 and the ANSI C-95.1-1992 and the NCRP RF Exposure Guidelines as amended to date. The applicant/licensee certifies compliance with the ANSI, NCRP and FCC Human Exposure Guidelines to Non-Ionizing RF Radiation.



EXHIBIT E-10 FIGURE #1.

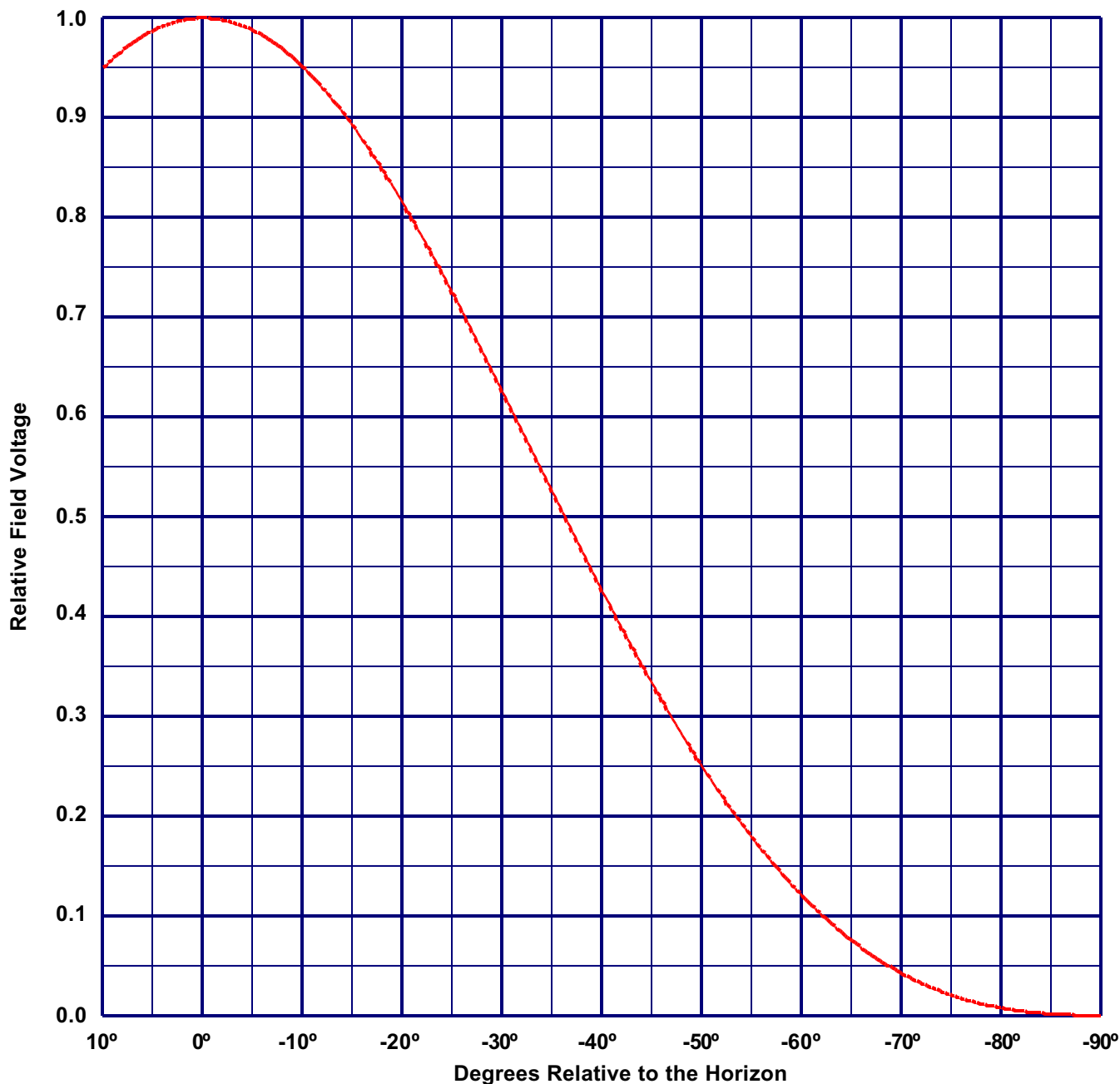
Vertical Plane Relative Field Pattern

ERI TYPE SHP, SHPX, MP, MPX, LP OR LPX ELEMENTS

KWIE(FM) Model SHPX-2AE-HW

A 2 level, .5 wave-length spaced non directional antenna

with 0° beam tilt, 0% null fill and a HIV maximum power ratio of 1.000



Vertical Polarization Gain:

Maximum: 0.702 (-1.535 dB)

Horizontal Plane: 0.702 (-1.535 dB)

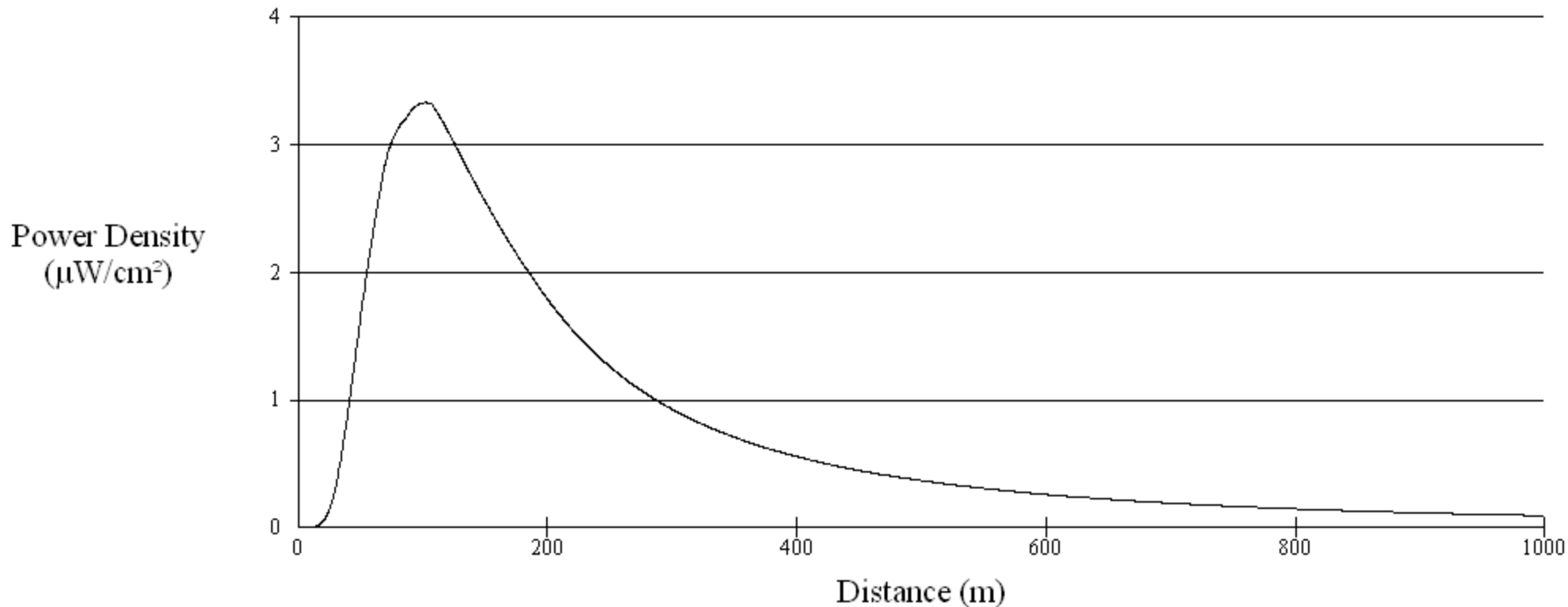
Horizontal Polarization Gain:

Maximum: 0.702 (-1.535 dB)

Horizontal Plane: 0.702 (-1.535 dB)

Power Density vs Distance

EXHIBIT E-10 FIGURE #2.



Office of Engineering and Technology

Distance (m):	<input type="text" value="1000"/>	Antenna Type:	<input (epa)"="" rototiller"="" type="text" value="ERI or JAMPRO JBCP "/>
Horizontal ERP (W):	<input type="text" value="1400"/>	Number of Elements:	<input type="text" value="2"/>
Vertical ERP (W):	<input type="text" value="1400"/>	Element Spacing:	<input type="text" value=".5"/>
Antenna Height (m):	<input type="text" value="52"/>		

MAXIMUM RFR POWER DENSITY = 3.3276 uW/cm2 at a distance of 102 meters from the base of the antenna support structure at 2 meters above ground level.

Antenna Manufacturer & Model: Electronics Research, Inc. (ERI) SHPX-2AE-HW, a two section, end fed, half wavelength, EPA Type 3, antenna array.