KLEIN BROADCAST ENGINEERING, L.L.C.

dedicated to improving the science of radio and television communications

SEPTEMBER 2002

EXHIBIT E-10RHS
FCC FORM 301-FM APPLICATION
FOR FM BROADCAST STATION CONSTRUCTION PERMIT
(A MINOR CHANGE)
AMERICAN GENERAL MEDIA of TEXAS, Inc.
K A R S (FM)
FM CHANNEL 275 C1 / 102.9 mHz.
LARAMIE , WYOMING

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 BEST case requirement of 36.1 meters height above ground level requirement for the radiation center of the installed ten (10) bay full wave length spaced FM broadcast antenna. A combined vertical and horizontal effective radiated power of 200.0 kilowatts was used for this study and determination (100.0 kW Horiz. & 100.0kW Vert.) The radiation center of the FM broadcast antenna system is proposed to be at 45 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 SHPX10-AC-SP, EPA Type 3, ten (10) section, 0.926 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. Bulleting #65 Guidelines. The antenna proposed uses -1.46 degrees of beam tilt, with NO null fill. The applicant has proposed an antenna with 0.926 wavelength spacing to greatly reduce the downward radiation at an 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 no 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 21.4013 mircowatts/cM2 at a distance of 18.0 meters from the base of the antenna support structure at a height of 2.0 meters above ground level. This is only 10.7% 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 significant RFR at the proposed KARS(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*SQRT(ERP)*
(element pattern factor)*(array factor) / DIST

H(A/m) = 1.6*0.588*SQRT(ERP)*
(element pattern factor)*(array factor) / 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 SHPX10-AC-SP, 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.

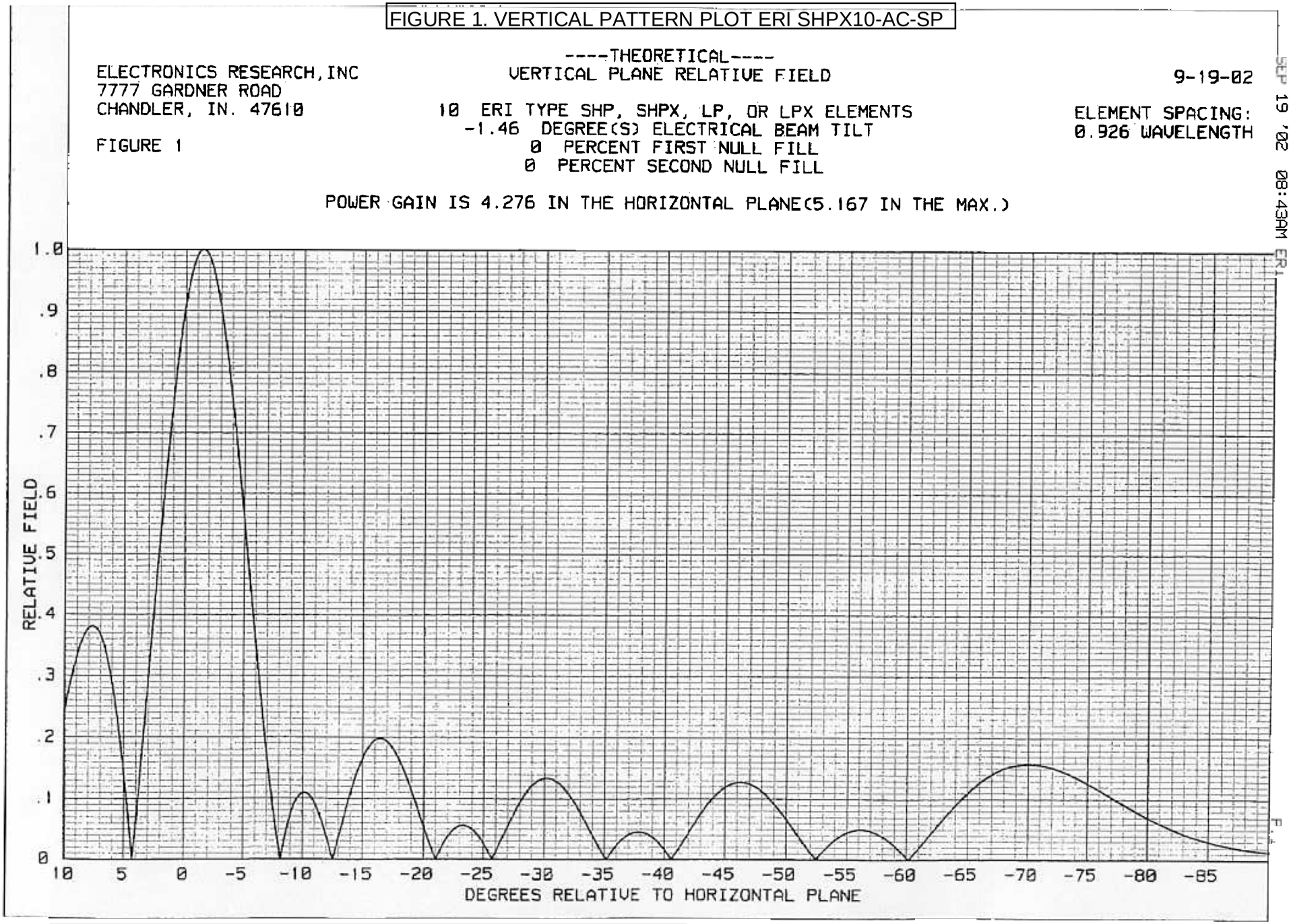
The General Public will not have access to the site because the site is in a sparsely populated , remote, mountain , rural area. The only access to the site is by dirt four wheel wilderness drive road. The site will be protected by a locked gate and fence. The locked gate and fence is around the entire perimeter of the tower site property. Only authorized personnel have access to the locked gate. This will prevent General Public access to the actual site.

The applicant, permittee or licensee, will install and post 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 SHPX10-AC-SP (EPA Type 3) antenna to be employed at KARS(FM) is included with this exhibit and is marked 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 Exhibit marked 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 21.4013 microwatts/cM2 occurring at 18.0 meters distant from the base of the antenna support structure. 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 proposed operation of the main transmission facility for KARS (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, permittee or licensee certifies compliance with the ANSI, NCRP and FCC Human Exposure Guidelines to Non-Ionizing RF Radiation.

FIGURE 1. VERTICAL PATTERN PLOT ERI SHPX10-AC-SP



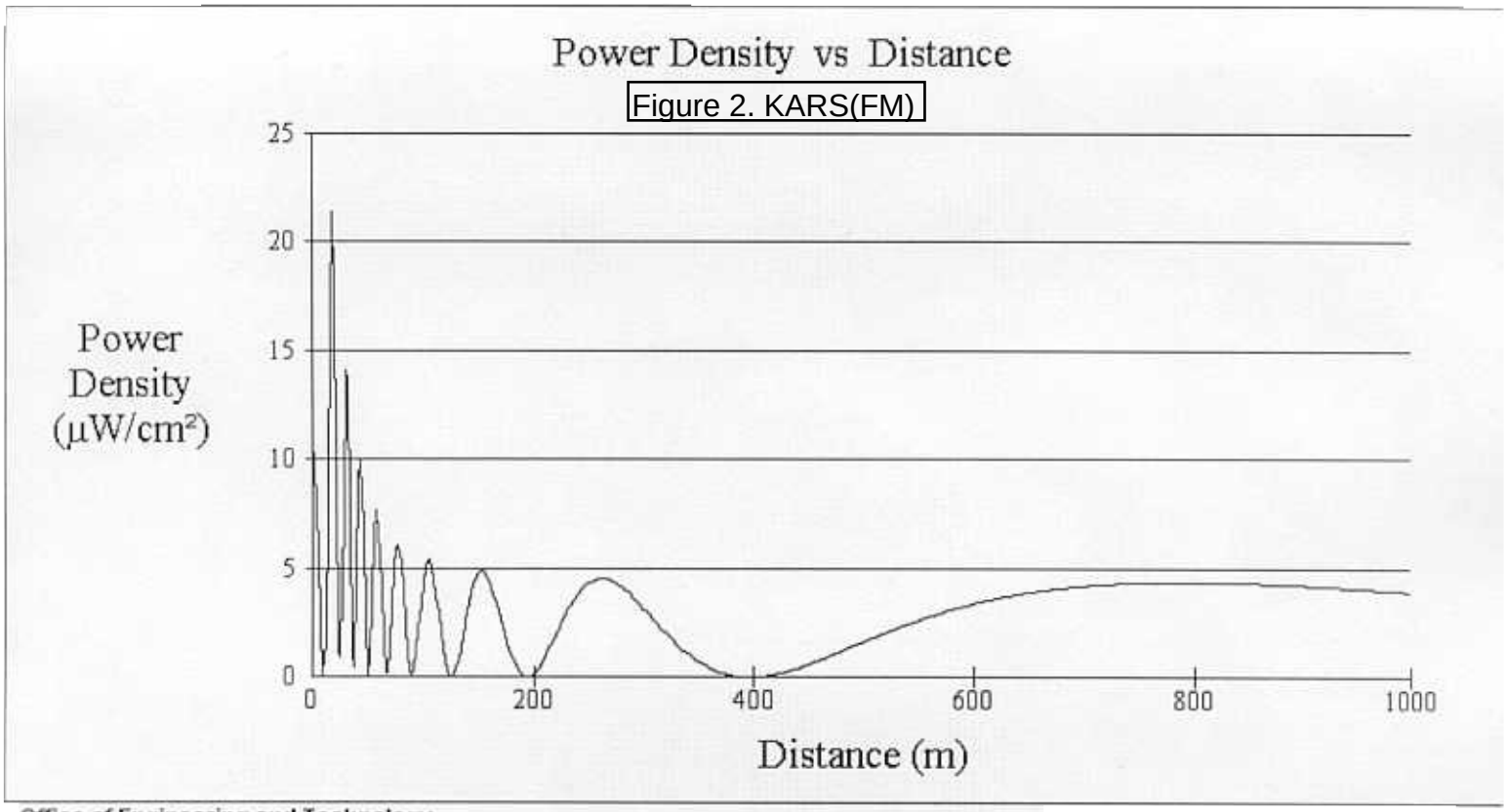


Figure 2. KARS(FM)

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Distance (m): 1000 Antenna Type: ERI or JAMPRO JBCP "Rototiller" (EPA)

Horizontal ERP (W): 100000 Number of Elements: 10

Vertical ERP (W): 100000

Antenna Height (m): 45 Element Spacing: .926

Maximum RFR Power Density 21.4013 microwatts/cM2 at 18.0 meters distance from the proposed antenna support structure at 2.0 meters above the ground level. Antenna under study is an Electronics Research, Inc. model SHPX10-AC-SP with 0.926 lamda bay spacing.

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