

EXHIBIT 22

ENVIRONMENTAL PROTECTION

The purpose for this application is to install a new FM antenna with 0.5 wavelength vertical element spacing to both increase the ERP to 75 kW H&V and lower the radio frequency power density levels at the surrounding ground levels.

An Environmental Assessment (EA) is categorically excluded under 47 C.F.R. Section 1.1306(b) of the FCC Rules and Regulations since the Applicant's proposal does not:

1. Involve a site location specified under 47 C.F.R. Section 1.1307(a)(1) through (7).
2. Involve high intensity lighting under 47 C.F.R. Section 1.1307(a)(8).
3. Result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in 47 C.F.R. Section 1.1307(b), (ANSI C95.1-1982 and ANSI C95.1-1991).

The existing antenna site is limited to authorized personnel by means of a locked gate and fence surrounding the antenna support tower and should be considered a controlled environment since public access is restricted from this area.

The Maximum Permissible Exposure (MPE) for controlled environments at the FM frequency of 91.3 MHz is 1000 uW/cm². The contributing radio frequency power density at a height of 2.0 meters above ground level from the KOAB-FM antenna, radiating a total of 75 kW ERP-H and 75 kW ERP-V, may be determined by the equation (10) on page 23 of the FCC OST Bulletin No. 65 dated August 1997.

The maximum relative field strength at the depression angle of -34 degrees towards the ground for the Electronics Research, Inc. Type SHPX nine element antenna, with 0.5 wavelength element spacing, is less than 0.12. This vertical plane relative field is plotted in the attached graph EXHIBIT 22A.

The center of radiation for the four element antenna is 60 meters above ground level. The maximum power density 2.0 meters above ground level, at the depression angle of -34 degrees and 90 meters from the tower base is:

$$S = \frac{33.4 \times (0.12)^2 \times 150,000 \text{ watts}}{(107 \text{ m})^2}$$

$$S = 6.3 \text{ uW/cm}^2$$

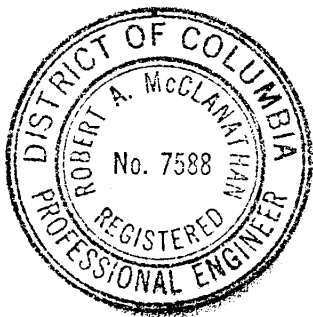
The total radio frequency power density, at a height of 2.0 meters above ground level at the base and in the vicinity of the antenna supporting tower, resulting from the proposed channel 217C1 FM operation, will not exceed 7 uW/cm².

Therefore, the proposed installation does comply with ANSI and FCC specified guidelines for uncontrolled human exposure to radio frequency radiation. The antenna supporting tower is fenced to prevent unauthorized access. The Applicant will instruct all personnel to terminate RF radiations from this antenna when service work requires that persons climb the tower for any purpose.

The Applicant believes there will be no significant effect on the human environment regarding public exposure or occasional visits by technical personnel and that warning signs will be sufficient for proper notification of a potential hazard.

EXHIBIT 22B is a plot of the RF power density at distances from the antenna support tower structure resulting from the KOAB-FM antenna radiation.

Statement and application prepared by:



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MAY 24, 1993

ELEMENT SPACING:
0.5 WAVELENGTH

-----THEORETICAL-----
VERTICAL PLANE RELATIVE FIELD

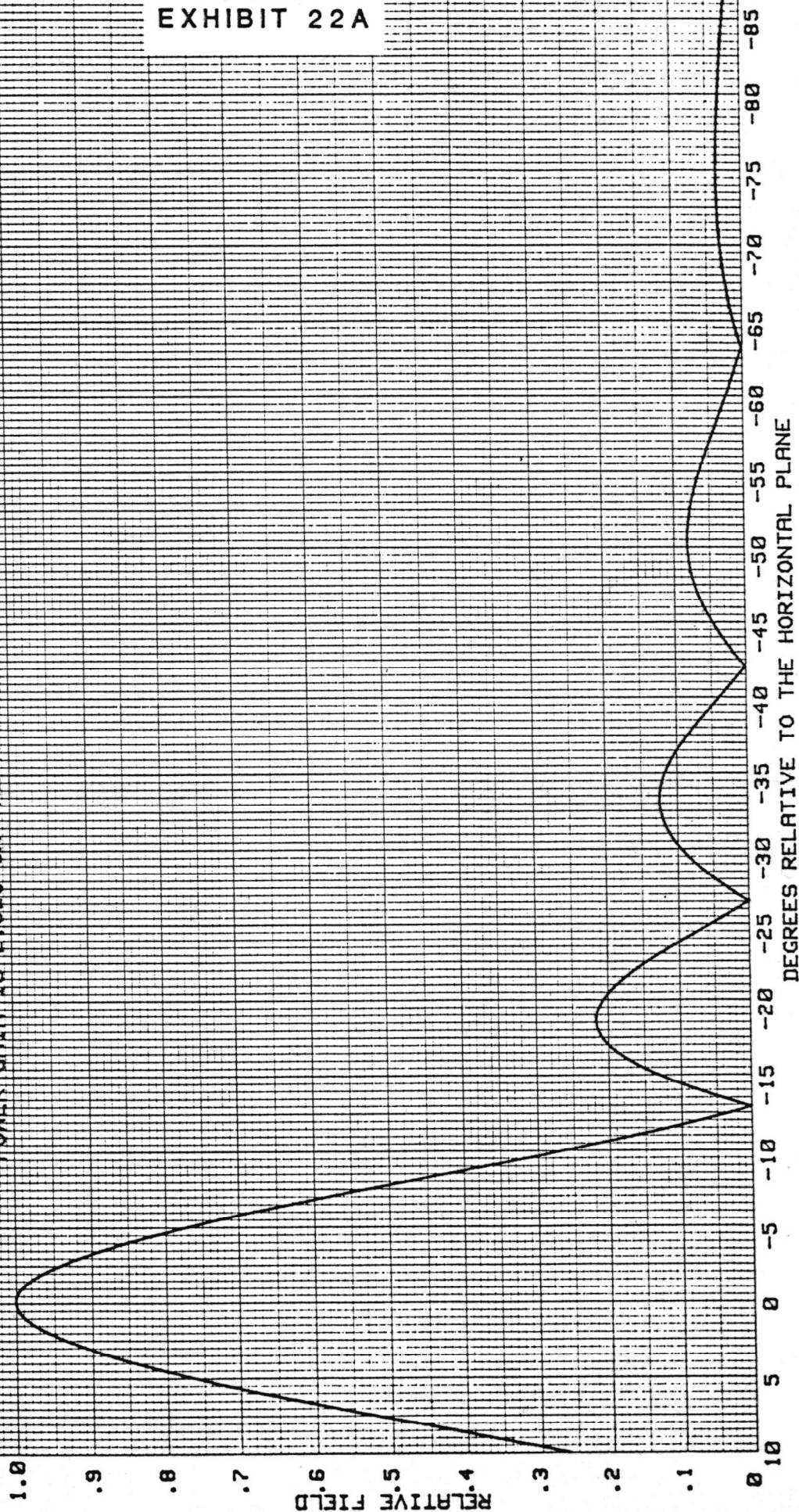
8 ERI TYPE SHP, SHPX, LP, OR LPX ELEMENTS
0 DEGREE(S) BEAM TILT
0 PERCENT FIRST NULL FILL
0 PERCENT SECOND NULL FILL

POWER GAIN IS 2.023 IN THE HORIZONTAL PLANE(2.023 IN THE MAX.)

EXHIBIT 22A

ELECTRONICS RESEARCH INC.
108 MARKET STREET
NEWBURGH, IN. 47630

FIGURE 18



Wade

Method
OET #55
OET Mod

Study
FM
TV

Mode
Reg
Spd

50 100 200 500 1000 2000 3000

Title	KOAB-FM	CH. 217C1	- Bend, Oregon

ERI/Jampro Roto, 9 Bays, Spc.=0.5 W, Pwr H=75 Pwr V=75

50

25

Abstract

Distance in Meters

EXHIBIT 22B

Antenna Parameters

75

75

of Bays

0.5 9

COR Meters Above Ground

09

Dist. in Meters to Tower Base

90

EPA Antenna Types

1.) Dipole/Ring Stub

2.) Jampiro Double V

3.1 ERI/Jampro Roto

4.) RCA (old BFG)

5. Dielectric (BFC)

0089 6.) Shively 6800

Max = 1000 μ W/sq cm

Pwr Density % of Max

5714

11/15/94

Q Yes

CON