

**NIER Statement**  
**Application for Minor Modification of Station KJEB-FM**  
**Facility ID # 37028**

KJEB-FM proposes to use a two-bay, circularly polarized, “rototiller-type” antenna employing  $\frac{3}{4}$  wavelength spacing between elements. The FCC-provided utility, FMMODEL.EXE, has been used to characterize the likely radiation exposure (NIER) in three significant locations.

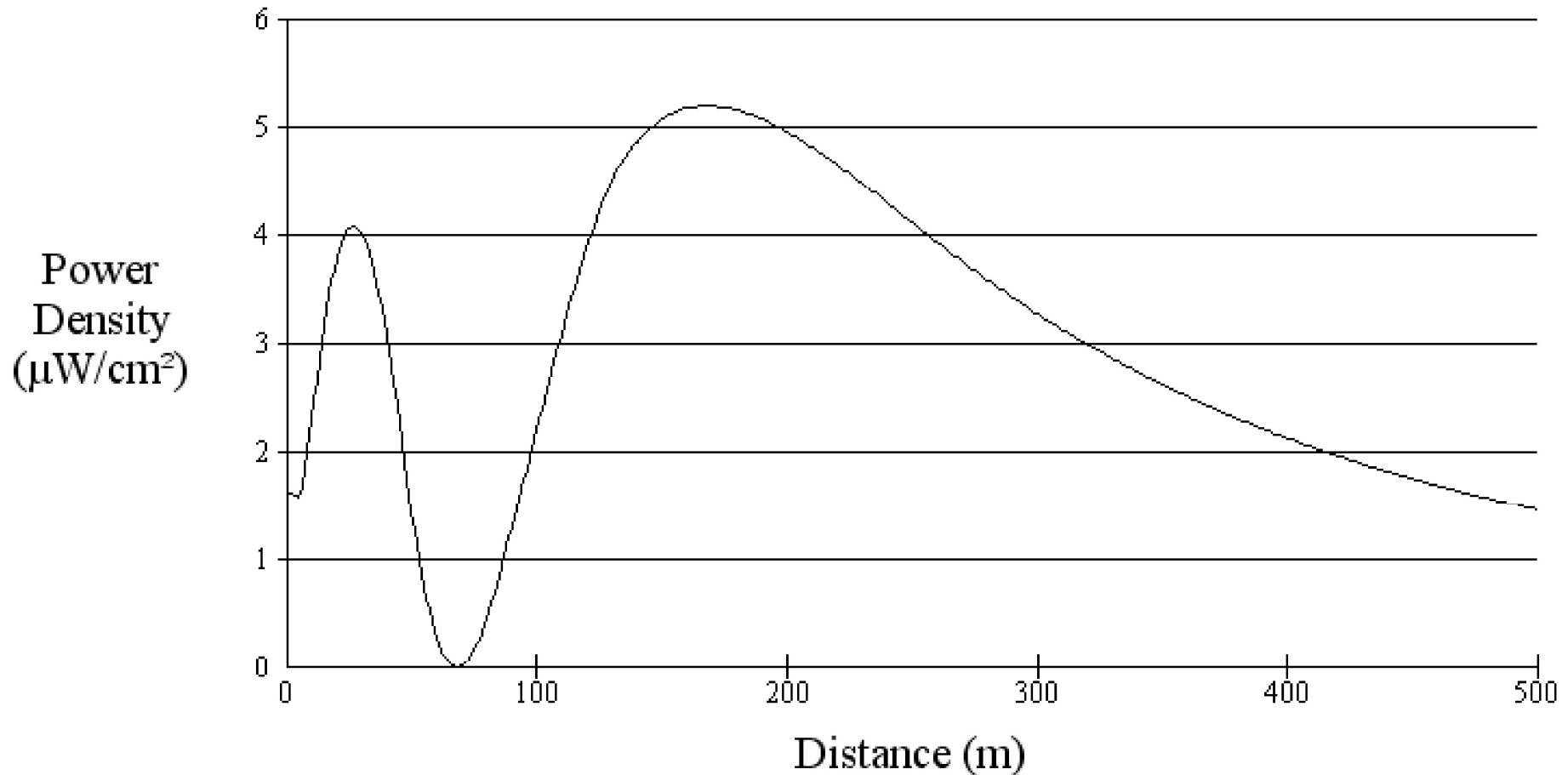
The proposed mounting location for the KJEB-FM antenna is an antenna pylon located atop a multi-story high-rise office building. The KJEB-FM antenna is the only occupant of the pylon. The antenna center of radiation is of overall height 63 meters above ground level. Persons anywhere on the ground beneath the antenna are exposed to a maximum of less than  $6 \mu\text{w}/\text{cm}^2$  which is compliant with the OET-65 NIER uncontrolled-area limit of  $200 \mu\text{w}/\text{cm}^2$ . This can be clearly seen from the FMMODEL.EXE output on page 2 of this exhibit.

The antenna pylon is mounted above a penthouse structure which houses mechanical equipment associated with operation of the office building. The rooftop of this penthouse is only accessible from the larger main roof area by a wall-mounted ladder. This penthouse rooftop is 7 meters below the center of radiation of the proposed KJEB-FM antenna and extends as far as 5 meters from the base of the pylon. FMMODEL.EXE output on page 3 of this exhibit reflects these parameters and demonstrates that the proposed KJEB-FM antenna will produce NIER in excess of the permitted uncontrolled exposure over the entire area of this small penthouse roof. The licensee of KJEB-FM will post appropriate warning signs in clearly visible locations, including immediately adjacent to the access ladder. In cases where access to the penthouse roof is necessary, KJEB-FM will voluntarily reduce power or discontinue operation as required to avoid hazard.

The majority of the building roof (main roof area) is one story lower than the penthouse roof, at an elevation 11 meters beneath the center of radiation of the KJEB-FM antenna. As can be seen from the FMMODEL.EXE output on page 4 of this exhibit, only the outer areas of the main roof area are illuminated at levels that exceed the uncontrolled limit of  $200 \mu\text{w}/\text{cm}^2$ . Access to the roof is only through locked doors and, as such, the roof is not accessible to the public. Suitable warning signs will be posted at the point of entry to the main roof area. Again, where access to the main roof area is required for periods that exceed the maximum permitted exposure time for access controlled areas, KJEB-FM will voluntarily reduce power or discontinue operation as required to avoid hazard.

Finally, the first story beneath the roof (top floor of the building) is at an elevation of 14 meters below the proposed KJEB-FM antenna center of radiation. Ignoring the additional attenuation provided by the roof structure, comprised of concrete with a mesh of steel reinforcement, the predicted NIER illumination is below the permitted maximum for uncontrolled radiation at all points. The FMMODEL.EXE output on page 5 of this exhibit shows the maximum NIER as approximately  $135 \mu\text{w}/\text{cm}^2$ .

## Power Density vs Distance



Office of Engineering and Technology

Distance (m):

500

Antenna Type:

ERI or JAMPRO JBCP "Rototiller" (EPA)

Horizontal ERP (W):

6000

Vertical ERP (W):

6000

Antenna Height (m):

63

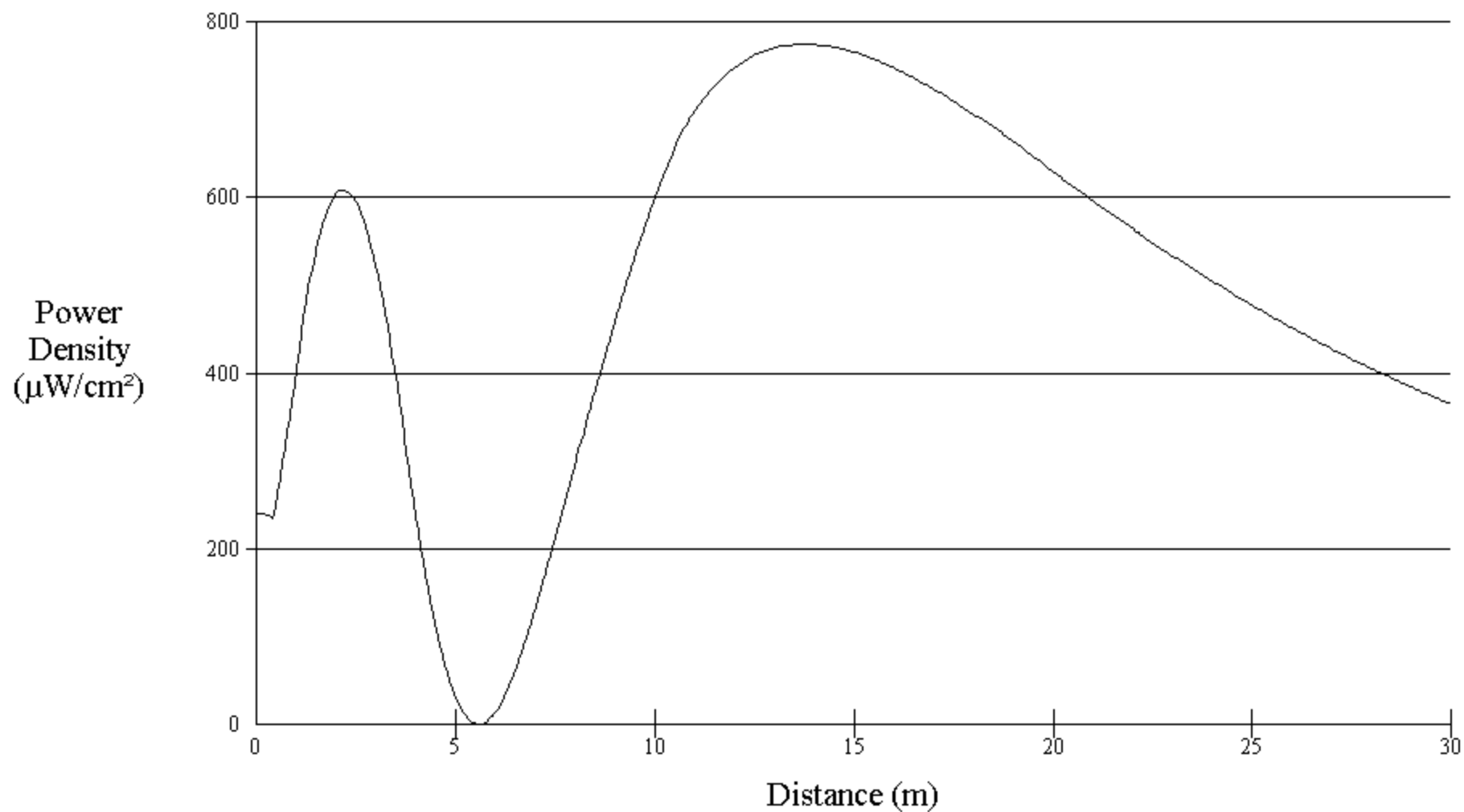
Number of Elements:

2

Element Spacing:

.75

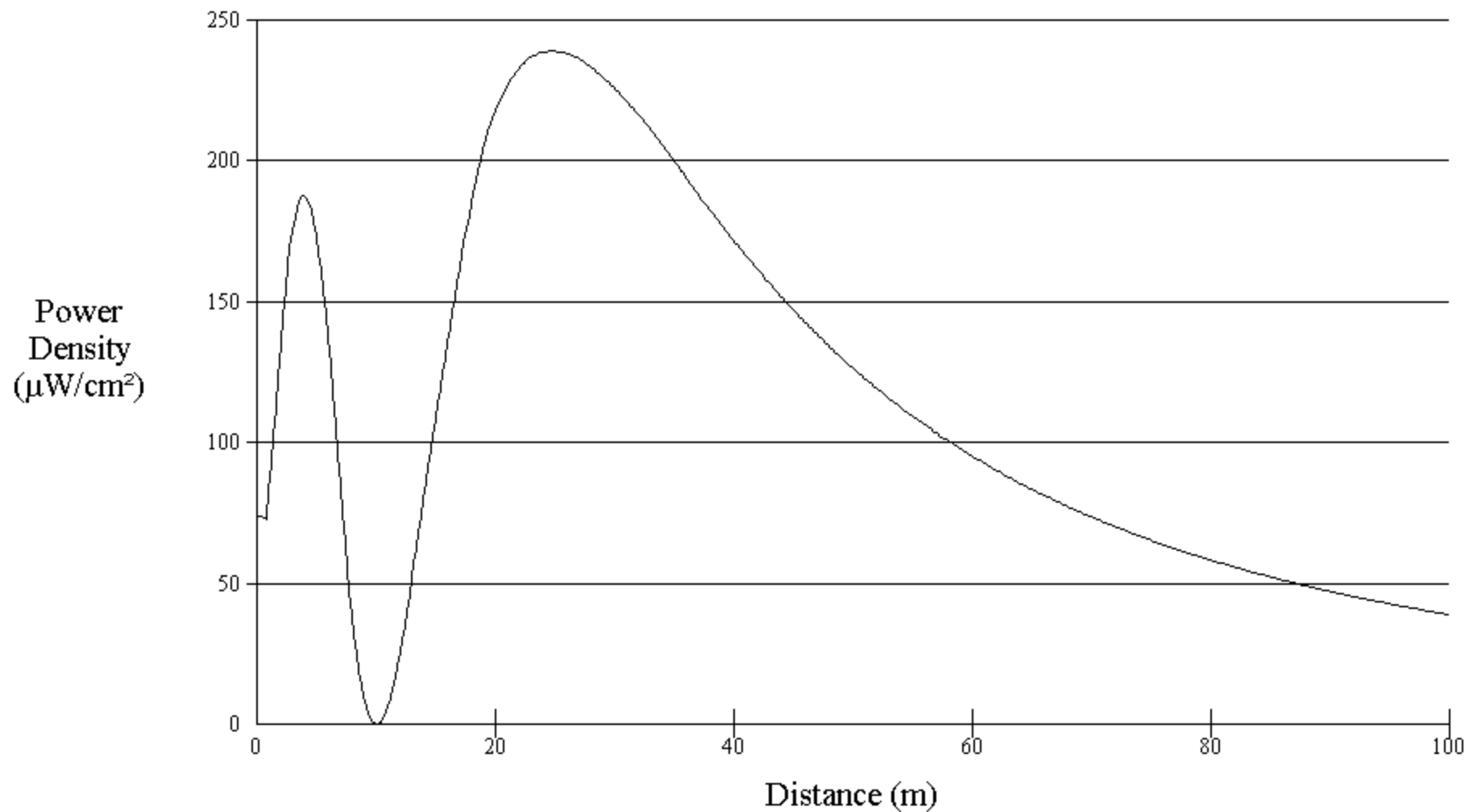
## Power Density vs Distance



Office of Engineering and Technology

Distance (m):	<input type="text" value="30"/>	Antenna Type:	<input (epa)"="" rototiller"="" type="text" value="ERI or JAMPRO JBCP "/>
Horizontal ERP (W):	<input type="text" value="6000"/>	Number of Elements:	<input type="text" value="2"/>
Vertical ERP (W):	<input type="text" value="6000"/>	Element Spacing:	<input type="text" value=".75"/>
Antenna Height (m):	<input type="text" value="7"/>		

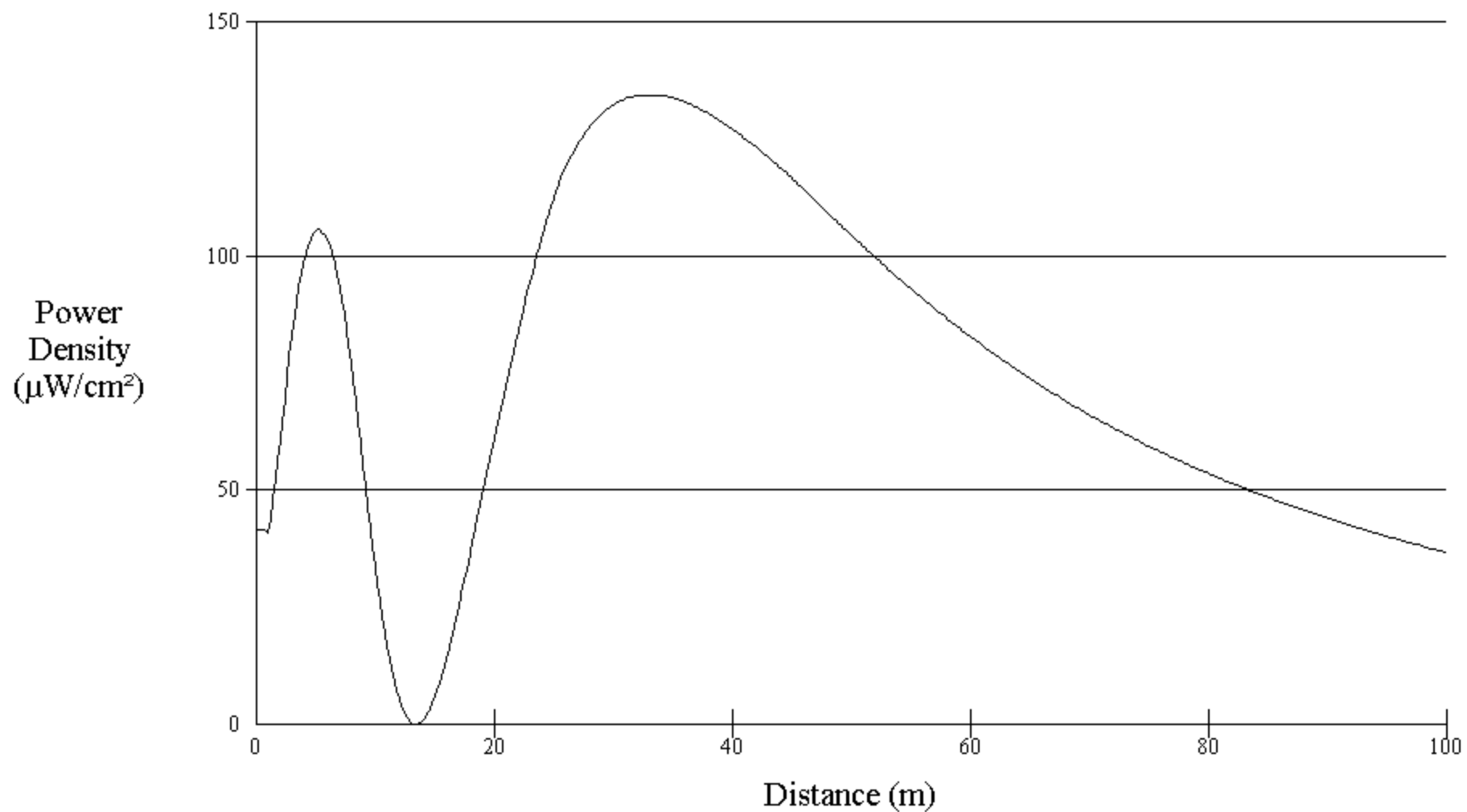
## Power Density vs Distance



Office of Engineering and Technology

Distance (m):	<input type="text" value="100"/>	Antenna Type:	<input (epa)"="" rototiller"="" type="text" value="ERI or JAMPRO JBCP "/>
Horizontal ERP (W):	<input type="text" value="6000"/>	Number of Elements:	<input type="text" value="2"/>
Vertical ERP (W):	<input type="text" value="6000"/>	Element Spacing:	<input type="text" value=".75"/>
Antenna Height (m):	<input type="text" value="11"/>		

## Power Density vs Distance



Office of Engineering and Technology

Distance (m):	<input type="text" value="100"/>	Antenna Type:	<input (epa)"="" rototiller"="" type="text" value="ERI or JAMPRO JBCP "/>
Horizontal ERP (W):	<input type="text" value="6000"/>	Number of Elements:	<input type="text" value="2"/>
Vertical ERP (W):	<input type="text" value="6000"/>	Element Spacing:	<input type="text" value=".75"/>
Antenna Height (m):	<input type="text" value="14"/>		