

**Engineering Statement  
In Support of an  
Amendment to a Pending Application  
BPH-20040217AEB  
WJOD(FM), Asbury, IA**

**WJOD Human Exposure to RF Radiation Study**

<u>Call</u>	<u>Service</u>	<u>Channel</u>	<u>Freq.</u> <u>(MHz)</u>	<u>Polari-</u> <u>zation</u>	<u>Antenna</u> <u>Height</u> <u>(AGL)*</u>	<u>ERP</u> <u>(kW)</u>	<u>Relative</u> <u>Power</u> <u>Factor</u>	<u>Vertical</u> <u>Predicted</u> <u>Power</u> <u>Density</u> <u>(<math>\mu\text{W}/\text{cm}^2</math>)</u>	<u>FCC</u> <u>Uncontrolled</u> <u>Limit</u> <u>(<math>\mu\text{W}/\text{cm}^2</math>)</u>	<u>Percentage</u> <u>of</u> <u>Uncontrolled</u> <u>Limit</u>
KLYV	FM	287	105.3	H&V	95	50	1.000	1.618	200	0.809%
WJOD	FM	277	103.3	H&V	95	9	1.000	0.290	200	0.145%

Total Percentage of ANSI (uncontrolled) value = 0.954%

\* The antenna height indicated above is 2 meters less than the actual antenna height so that the predicted power densities consider the two-meter human height allowance.

The WJOD facility proposes to co-locate with the KLYV facility and use a Dielectric DCRM eight-element antenna as a common antenna.

The common antenna will be 0.75 wavelength spaced for WJOD. Therefore the Dielectric DCRM antenna shown in the "FMModel" (version 2.10 beta) for Windows was used to determine the power density. The WJOD facility produces  $0.290 \mu\text{W}/\text{cm}^2$  at 82 meters from the base of the tower and less than  $.001 \mu\text{W}/\text{cm}^2$  at 2 meters from the base of the tower.

The common antenna will be 0.7645 wavelength spaced for KLYV. Therefore the Dielectric DCRM antenna shown in the "FMModel" (version 2.10 beta) for Windows was used to determine the power density. The KLYV facility produces  $1.618 \mu\text{W}/\text{cm}^2$  at 85 meters from the base of the tower and less than  $.001 \mu\text{W}/\text{cm}^2$  at 2 meters from the base of the tower.

The highest power density for each facility was used for this study and combined to give the total power density.

As demonstrated, the total percentage of the ANSI values, considering the combined power densities of facilities on the supporting structure, is 0.954% of the limit for the "uncontrolled" environments and 0.191% of the limit for the "controlled" environments.