

**FCC FORM 301, EXHIBIT 29  
ENVIRONMENTAL ASSESSMENT  
APPLICATION FOR MODIFICATION OF  
CONSTRUCTION PERMIT  
FCC FILE NUMBER BMPH-19990820IF  
PREPARED FOR  
SECRET COMMUNICATIONS II, LLC  
STATION WKKJ(FM)  
CHILlicothe, OHIO  
CH 227B      33 KW (MAX-DA, H&V)      182 METERS**

INTRODUCTION

This engineering exhibit was prepared on behalf of Secret Communications II, LLC (Secret), licensee of station WKKJ(FM), Chillicothe, Ohio, in support of an FCC Form 301 minor change application for modification of construction permit (FCC File Number BMPH-19990820IF).

Secret proposes herein to relocate the transmitting facilities of WKKJ, Chillicothe, Ohio, to an existing tower site located at geographic coordinates 39° 35' 30" North Latitude, 83° 06' 38" West Longitude (referenced to the 1927 North American Datum), with maximum effective radiated power of 33 kilowatts, circularly polarized, and antenna radiation center above average terrain of 182 meters. The proposed WKKJ antenna radiation center is

**DENNY & ASSOCIATES, P.C.**  
CONSULTING ENGINEERS  
OXON HILL, MARYLAND

---

FCC Form 301, Exhibit 29  
Station WKKJ(FM), Chillicothe, Ohio

Page 2

175 meters above ground level. Secret proposes to utilize a Dielectric Communications, model DCR4C, directional FM antenna.

The instant proposal is categorically excluded from environmental processing since none of the conditions of Sections 1.1306(b)(1), (2), or (3) of the FCC Rules would be involved for the following reasons.

1. The proposed site is not in any location referenced in Section 1.1306(b)(1) of the FCC Rules as being of environmental interest.

2. The provision of Section 1.1306(b)(2) of the FCC Rules relating to the use of high intensity strobe lighting does not apply since high intensity obstruction lighting is not used on the existing tower.

3. Finally, with regard to radio-frequency radiation (RFR) exposure concerns, compliance with the FCC limits for maximum permissible exposure (MPE) would be achieved with respect to both general population/uncontrolled and occupational/controlled exposures.

**DENNY & ASSOCIATES, P.C.**  
CONSULTING ENGINEERS  
OXON HILL, MARYLAND

---

FCC Form 301, Exhibit 29  
Station WKKJ(FM), Chillicothe, Ohio

Page 3

An analysis has been made of the human exposure to RFR using the calculation methodology described in *OET Bulletin 65, Edition 97-01*, prepared by the FCC Office of Engineering and Technology. A conservative vertical plane field factor of 0.35 was used in the calculation of WKKJ power density. This factor was obtained from the measured vertical plane relative field pattern for the proposed WKKJ antenna that was provided by the manufacturer and is included herein as Attachment 1 of this exhibit. To account for ground reflections, a coefficient of 1.6 was included in the calculation of power density.

At the WKKJ operating frequency, the FCC MPE level for general population/uncontrolled exposure is 0.2 milliwatt per square centimeter ( $\text{mW}/\text{cm}^2$ ), and the FCC MPE level for occupational/controlled exposure is  $1.0 \text{ mW}/\text{cm}^2$ . At a reference point two meters above ground level at the base of the existing tower, the calculated WKKJ power density is  $0.0090 \text{ mW}/\text{cm}^2$ , which is 4.5 percent of the FCC MPE level for general population/uncontrolled exposures and 0.9 percent of the FCC MPE level for occupational/controlled exposures.

**DENNY & ASSOCIATES, P.C.**  
CONSULTING ENGINEERS  
OXON HILL, MARYLAND

---

FCC Form 301, Exhibit 29  
Station WKKJ(FM), Chillicothe, Ohio

Page 4

With regard to worker concerns, there is no danger of exposure to RFR in excess of the applicable MPE limit at any location on the ground or near the proposed WKKJ tower. The only potential for exposure to excessive levels of RFR would be to workers climbing the proposed tower and reaching locations on the tower close to the WKKJ transmitting antenna while it is energized. In order to protect workers from overexposure, Secret will not permit workers to climb the proposed tower while WKKJ is operating at full power. If antenna or tower maintenance or repair requires that a worker climb the WKKJ tower, then the WKKJ transmitter power will be reduced or the WKKJ transmitter will be shut down completely to prevent the overexposure of workers on the tower.

Warning signs will be posted at the base of the tower alerting workers of the potential for exposure to excessive levels RFR near energized antennas. By restricting access to the tower and placing warning signs at the base of the tower, appropriate coordination may be achieved to assure that all tower work is done in a way that will avoid exposing workers to levels of RFR exceeding the FCC MPE levels limits.

CERTIFICATION

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge. Executed on October 30, 2001.



Robert G. Mallery

ATTACHMENT 1

MEASURED ELEVATION PATTERN  
DIELECTRIC COMMUNICATIONS, MODEL DCRC4  
FM DIRECTIONAL ANTENNA



A Unit of SPX Corporation

Date	Oct. 24, 2001
Call Letters	WKKJ
Location	Chillicothe, OH
Customer	John Crabb
Antenna Type	DCRC4

### MEASURED ELEVATION PATTERN

RMS Gain at Main Lobe	<b>4.20</b>	<b>( 6.23 dB )</b>	Beam Tilt	<b>0.00 deg</b>
			Frequency	<b>93.30 MHz</b>
			Plane	<b>Typical</b>

