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ENGINEERING EXHIBIT EE-7:

RADIO STATION WKXW
PRESS COMMUNICATIONS, LLC
TRENTON, NEW JERSEY

Ch. 268-B 15.5 KW 275 M HAAT

MARCH 14, 2001

ENGINEERING STATEMENT IN SUPPORT OF
AN APPLICATION FOR A
MODIFICATION OF LICENSED FM FACILITY
TO INCREASE HEIGHT & LOWER ERP
MAINTAINING EQUIVALENT MAXIMUM CLASS B FACILITIES
NO CHANGE OF SITE

File No. BLH-19930224KW - Facility ID: 53458

Attached to Question 16 - Exhibit 24 of FCC Form 301

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- On File, No Change.

Declaration

I, John J. Mullaney, declare and state that I am a graduate electrical engineer with a B.E.E.E. and my qualifications are known to the Federal Communications Commission, and that I am an principal engineer in the firm of Mullaney Engineering, Inc., and that I have provided engineering services in the area of telecommunications since 1977. My qualifications as an expert in radio engineering are a matter of record with the Federal Communications Commission.

The firm of Mullaney Engineering, Inc., has been requested by Press Communications, LLC, to prepare the instant engineering exhibit in support of an application for Construction Permit to increase the HAAT with a compensating decrease in ERP for FM radio station WKXW, licensed to Trenton, New Jersey (FCC Facility ID Number: 53458).

All facts contained herein are true of my own knowledge except where stated to be on information or belief, and as to those facts, I believe them to be true. I declare under penalty of perjury that the foregoing is true and correct.

/s/ John J. Mullaney

John J. Mullaney, Consulting Engineer

Executed on the 14th day of March 2001.

ENGINEERING EXHIBIT EE-7:

RADIO STATION WKXW
PRESS COMMUNICATIONS, LLC
TRENTON, NEW JERSEY

Ch. 268-B 15.5 KW 275 M HAAT

NARRATIVE STATEMENT:

I. General:

This engineering statement has been prepared on behalf of Press Communications, LLC. The purpose of this statement is to request a Construction Permit authorizing an increase in HAAT with a compensating reduction in ERP. WKXW on Channel 268-B at Trenton, New Jersey, requests a CP to operate with an ERP of 15.5 KW and an HAAT of 275 Meters. WKXW currently operates with equivalent maximum Class B facilities and this application **proposes to maintain that equivalency**. No change of site is being requested.

WKXW is located on the WNJT TV tower. As part of its conversion to DTV, the TV is replacing it antenna at the top of the tower. The WKXW FM antenna will be pole mounted on top of the replacement TV panel antenna.

The application is not a major environmental action, as defined by Section 1.1307 of the Commission's Rules. The proposed facility is in full compliance with both the "controlled" & "un-controlled" FCC Radiation Guidelines. Since the proposed facility contributes less than 5% of the "controlled" standard it is categorically excluded from further consideration.

Answers to questions contained in F.C.C. Form 301, Section III-B, are incorporated in the following paragraphs and figures.

II. Engineering Discussion:

A. Antenna System and Tower:

A dual polarized 4-bay FM antenna will be pole mounted near the top of the existing tower. Figure 3 is a sketch of the proposed tower. The overall height of the structure does not change from what it is today. The antenna has a non-directional power gain of 1.307 H/V.

The antenna will be fed by 304.8 Meters (1,000 Feet) of 3" coaxial cable, with a rated efficiency of 72.3 percent for this length.

B. Transmitter:

WKXW plans to install a type accepted 20 KW FM transmitter. The transmitter will be operated at 16.4 KW which is within its rated power.

C. Effective Radiated Power:

Giving consideration for the maximum antenna gain, transmitter power and line loss, the maximum Effective Radiated Power is 15.5 KW for the Horizontal and 15.5 KW for the Vertical Component.

A Class-B FM station is restricted to a maximum of 50 KW (ERP) up to a maximum Height Above Average Terrain (HAAT) of 150 Meters. This proposal will operate with an HAAT that exceeds the maximum and consequently must reduce its ERP in order to obtain equivalent coverage within the 1.0 mV/m contour.

Current F.C.C. policy permits stations that are beyond 320 kilometers from the Mexican or Canadian Borders to use the F(50,50) curves to determine what reduced power at their HAAT will provide the equivalent maximum 1.0 mV/M coverage allowed.

Using the curve, it was determined that Class B operations at an HAAT of 275 Meters requires the ERP to be 3.6 to 15.5 KW.

D. <u>Channel Allocation</u>:

WKXW is not proposing to change its site, thus, the spacing conditions **will not change**. The new facilities proposed herein are for a higher HAAT & a lower ERP. This represents a reduction in interference predicted by the F(50,10) curves (although slight).

WKXW operating on Channel 268B is short spaced to six different stations. One of the short spacing, WJKS/269A, resulted from the 6 kW rules and therefore, has no impact on a Class B facility. The remaining five short spacings are grandfathered short spaced and governed under Section 73.213(a) of the rules.

Since stations WBEB/266B & WIOQ/271B are on 2nd or 3rd adjacent channels they can be totally ignored. Stations WROZ/267B, WGGY/267B and WPDH/268B are entitled to interference protection.

As previously stated, the new facilities proposed herein are for a higher HAAT & a lower ERP. Since WKXW already operates at equivalent maximum Class B facilities this represents a **reduction** in interference predicted by the F(50,10) curves (although slight).

E. FM Blanketing Contour:

WKXW recognizes its obligation to resolve related interference complaints for a one year period within its 115 dBu "FM Blanketing Contour" as required by Section 73.318 of the FCC Rules. Since this is the existing site and a 18.4% lower Erp no problems are anticipated.

F. Other Services in Area:

There are no known AM Broadcast Stations within 3.2 kilometers of the proposed site.

This is an existing electronic site with numerous other facilities. Besides what already exists on the tower there are no known transmission facilities within 60 meters (197 feet) of the proposed antenna.

G. Environmental Assessment Statement:

WKXW believes its proposal will not significantly affect the environment since it does not meet any of the criteria specified in Section 1.1307 of the rules. Since an existing tower will be used with no change in overall height the only remaining environmental issue is R.F. Exposure. Specifically the proposed facility:

1) Will NOT involve the exposure of workers or the general public to levels of Radio Frequency radiation in excess of the guidelines recommended by the FCC - OET Bulletin 65 (August 25, 1997).

The following is a more detailed discussion of this protection standard:

A. <u>National Environmental Policy Act of 1969</u>:

In 1969, Congress enacted the National Environmental Policy Act (NEPA), which requires the FCC to evaluate the potential environmental significance of the facilities it regulates and authorizes. Human exposure to Radio Frequency (RF) radiation had been identified as an issue that the FCC must consider.

Beginning with the filing of applications after January 1, 1986, broadcast stations were required to "certify compliance" with FCC prescribed guidelines on human exposure to RF radiation. The FCC standard was based upon the American National Standards Institute's (ANSI) RF radiation protection guides (ANSI C95.1-1982). These exposure limits are expressed in terms of milli-watts per square centimeter.

In October 1997, the FCC implemented a two tier evaluation criteria utilizing recommendations of the National Council on Radiation Protection and Measurement (NCRP). The "controlled" tier involves areas which have restricted access while the "un-controlled" tier involves areas which have unrestricted access. The Maximum Permissible Exposure (MPE) limits for "controlled" areas are the same as adopted in 1985, while the "un-controlled" limits for FM and TV frequencies are one-fifth or 20% of the limits for "controlled" areas.

These exposure limits are time-averaged over any six minute period and vary depending upon the frequency involved. The following are the Maximum Permissible Exposure (MPE) limits for "controlled" areas:

Frequency Range (MHz)	**Power Density (mW/sq.cm)**
**********	**********
0.3 to 3	100 AM
3 to 30	$900/(Freq^2)$
30 to 300	1.0 VHF TV & FM
300 to 1,500	Freq/300 UHF TV
1500 to 100,000	5.0

WKXW recognizes that compliance with the above criteria at sites involving multiple AM, FM and/or TV facilities is based upon the contributions of all such facilities. At the site discussed in this application, there are or will be two TVs and two other FMs. However, as will be shown, because of the small contribution at ground level WKXW is **categorically excluded** from a complete evaluation of all contributors.

FM Broadcast Stations

For FM Broadcast Stations the following formula is used:

$$D = \frac{\text{SQRT}(F2 * [\text{HERP} + \text{VERP}])}{1.667 * \text{SQRT}(PD) * 3.2808}$$

Where:

D = the closest distance in meters that a human should come to an operating antenna (To obtain feet multiply by 3.2808)
F = typical relative field factor in downward direction (F=1 is worst case main lobe)
HERP = Horizontal ERP in watts (above a dipole)
VERP = Vertical ERP in watts (above a dipole)
PD = highest Power Density in milli-watts/cm^2
SQRT = Square Root
Freq = Frequency in mega-cycles/sec. (MHz)

The vertical radiation pattern of the FM antenna specified in this application is very narrow and, therefore, the power density as seen by an observer on the ground near the base of the tower will be less than 20 percent of the total ERP.

The application of the above equation (assuming maximum ERP), in our case, for a frequency of 101.5 MHz and an "un-controlled" Power Density of 0.2 milli-watts results in a minimum distance of 72.0 meters (237 feet) from the antenna. Inasmuch as the lowest element on the proposed antenna will be approximately 288.6 meters (947 feet) above the ground level, it is self-evident that no hazard from radiation will exist to persons at ground level. At approximately 2 meters above the ground and assuming maximum downward radiation, the proposed FM facility contributes 1.2% of the FCC "controlled" standard. For FM, the "un-controlled" standard is 20% and, therefore, this proposal is in full compliance and is **categorically excluded** from further consideration since it is less than 5%.

The tower is surrounded by a locked fence to limit access.

Workers employed to climb the tower or work in a potential overexposure location will not be permitted to enter the work area until cleared by the station manager or other responsible person. Appropriate warning signs are posted to ensure safety. In addition, WKXW will establish and enforce work rules and safety procedures applicable in a potential over-exposure area. The rules will establish how close a worker can get to the antenna when it is operating at normal power and specify the power reduction required in order to make other locations safe. It is recognized that maintenance or installation work on or near the antenna may require the station to completely shutdown or switch

temporarily to an auxiliary antenna or an auxiliary transmitter site. All procedures will be reviewed & updated as necessary.

III. SUMMARY:

Press Communications, LLC, requests a Construction Permit authorizing an increase in HAAT with a compensating reduction in ERP for WKXW on Channel 268-B at Trenton, New Jersey. WKXW proposes to maintain its equivalent maximum Class B facilities it is currently operating. This engineering proposal is in full compliance with the Commission's Rules.

/s/ John J. Mullaney

John J. Mullaney, Consulting Engineer

March 14, 2001.