ENGINEERING EXHIBIT

Application for License

prepared for

The WBEZ Alliance, Inc.
WBEZ(FM) Chicago, IL
Facility ID 66649
Ch. 218B 91.5 MHz 5.7 kW 425 m

The WBEZ Alliance, Inc. ("Alliance") is licensee of WBEZ(FM), Ch. 218B, Chicago, IL (BLED-19850628KL). A Construction Permit ("CP", BPED-20050914ACR) authorizes WBEZ to employ a shared antenna located atop the John Hancock Center at 5.6 kW ERP and 425 meters HAAT. An Application for License to cover that CP is pending (BLED-20060905ACG). *Alliance* has now completed construction related to a power increase to 5.7 kW, as authorized in a subsequent CP (BPED-20070816ACU). This statement and associated exhibits support an Application for License to cover BPED-20070816ACU.

The power increase authorized in BPED-20070816ACU involves no change in antenna location or height, and continued use of the ERI model COG3-20P-2-70-2 shared antenna at the John Hancock Center. The shared antenna consists of two circularly polarized sections, spaced at intervals of 0.71 wavelength on WBEZ's frequency (91.5 MHz). Table 1 supplies a summary of the antenna gain and system loss figures, showing that the required WBEZ transmitter power output is 9.02 kW to achieve 5.7 kW ERP.

Compliance With Special Operating Conditions

Upon initial construction of the shared antenna in June, 2003, measurements were performed to establish compliance with the FCC's spurious emission requirements to consider simultaneous operation of eight FM stations including WBEZ at 5.6 kW ERP (see BXLED-20030618AAR). Now, *Alliance* has conducted additional spurious emissions measurements with WBEZ operating at

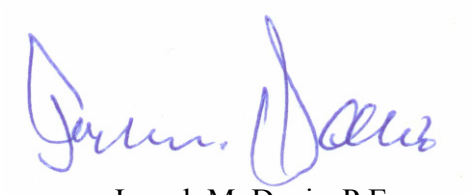
5.7 kW and all stations simultaneously utilizing the shared antenna. The measurements showed that the WBEZ facilities are in compliance with Sections 73.317(b) through 73.317(d) of the FCC's rules. A separate statement of compliance is provided in Appendix 1, as prepared by Mr. Peter Femal of WBEZ (Chicago Public Radio).

Regarding human exposure to RF electromagnetic field, access to the John Hancock Center ("JHC") rooftop, antenna support structures, and any areas within the building that may exceed exposure limits is strictly controlled by the building owner. *Alliance* participates in the building's RF exposure safety program along with the other broadcasters and FCC licensees that utilize the JHC as a transmission site. As authorized RF emitters are added or modified, exposure abatement procedures are confirmed and amended as necessary. A copy of the RF protection compliance statement as provided by JHC is provided in Appendix 2, which provides details regarding identification of areas where high levels of RF may be present and descriptions of restricted area access and worker procedures.

Alliance will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, mast or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

Certification

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.



Joseph M. Davis, P.E.
December 2, 2010

Chesapeake RF Consultants, LLC
207 Old Dominion Road
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List of Attachments

Table 1	Auxiliary Antenna / Line System Gains and Losses
Appendix 1	Spurious Emission Measurements - Statement of Compliance
Appendix 2	RF Electromagnetic Field - JHC Compliance Statement

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Table 1

Antenna / Line System Gains and Losses

prepared for

The WBEZ Alliance, Inc.

WBEZ(FM) Chicago, IL

Construction Permit File Number: BPED-20070816ACU

Authorized Effective Radiated Power:	**5.7 kW**	**7.56 dBk**

Antenna System

ERI COG3-20P-2-70-2 2 elements, 0.71 wavelength spacing	Power Gain:	0.870	-0.60 dB
	Antenna Input Power:	**6.55 kW**	

Line and Other Losses

Transmission Line Combiner Output to Antenna 6-1/8 inch rigid 50 Ohm, length 460 ft	Loss:	0.23 dB
Combiner for Shared Antenna Shively	Loss:	0.42 dB
Transmission Line Transmitter to Combiner Input 3-1/8 inch rigid 50 Ohm, length 300 ft	Loss:	0.28 dB
IBOC Digital Transmitter Injector	Loss:	0.46 dB
	Total Losses:	**1.39 dB**

Transmitter Power Output:	**9.02 kW**	**9.55 dBk**

Appendix 1

Spurious Emission Measurements - Statement of Compliance

The WBEZ Alliance, Inc.

WBEZ(FM) Chicago, IL

Facility ID 66649

Ch. 218B 91.5 MHz 5.7 kW 425 m

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WBEQ 90.7 FM MORRIS
WBEW 89.5 FM CHESTERTON

Statement of Compliance

WBEZ-FM Chicago, IL
Facility ID 66649
Ch. 218B 91.5MHz 5.7kW 425m

Measurements were conducted on November 20, 2010 on station WBEZ in Chicago, IL FCC Facility ID number 66649 to certify compliance with special operating condition one of Construction Permit number BPED-20070816ACU. The special operating conditions are stated below.

Special Operating Condition One:

1. BEFORE PROGRAM TESTS COMMENCE, sufficient measurements shall be made to establish that the operation authorized in this construction permit is in compliance with the spurious emissions requirements of 47 C.F.R. Sections 73.317(b) through 73.317(d). All measurements must be made with all stations simultaneously utilizing the shared antenna. These measurements shall be submitted to the commission along with the FCC Form 302-FM application for license.

§ 73.317 FM transmission system requirements.

(b) Any emission appearing on a frequency removed from the carrier by between 120 kHz and 240 kHz inclusive must be attenuated at least 25 dB below the level of the unmodulated carrier. Compliance with this requirement will be deemed to show the occupied bandwidth to be 240 kHz or less.

(c) Any emission appearing on a frequency removed from the carrier by more than 240 kHz and up to and including 600 kHz must be attenuated at least 35 dB below the level of the unmodulated carrier.

(d) Any emission appearing on a frequency removed from the carrier by more than 600 kHz must be attenuated at least 43 + 10 Log10 (Power, in watts) dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.

The measurements were made by a Tektronix 2711 Spectrum Analyzer attached to the final directional coupler prior to the John Hancock ERI Master Antenna. All combined stations at the John Hancock Center were operating at full power the day the tests were conducted. WBEZ was operating both its Analog and IBOC signals along with a 67 kHz Subcarrier. Also WBEZ's analog transmitter was operated at aTPO required to produce the 5.7 kW ERP.

The measurement concluded that WBEZ is in compliance with § 73.317 FM transmission system requirements parts B, C, and D. All emissions removed from the 91.5 MHz FM carrier between 120 kHz and 240 kHz prove to be attenuated by the required 25dB, also all emissions removed from carrier by 240 kHz and up to and including 600 kHz are attenuated by greater than 35dB, and all emissions removed from the carrier by more than 600 kHz are attenuated by greater than 80dB. This test concludes that WBEZ meets the required emissions masks at the increased ERP.

Respectfully submitted,

Peter Femal
Director of Transmission, Maintenance, and Reliability
Chicago Public Media
11/21/2010

Appendix 2

RF Electromagnetic Field - JHC Compliance Statement

The WBEZ Alliance, Inc.

WBEZ(FM) Chicago, IL

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Ch. 218B 91.5 MHz 5.7 kW 425 m

Compliance Statement

FCC Radio Frequency Protection Guides

Rooftop Communications Areas
at the
John Hancock Center
April 2010

The John Hancock Center is a 100 story high-rise building located in the near north side of Chicago. Atop the building are two towers to which are attached the antennas for several television stations and numerous FM radio stations. Also atop the building is an antenna grid that supports a host of two-way and microwave antennas.

The rooftop of the building is composed of two distinct areas. One is the "lower roof" and the other is the "upper roof" or "penthouse roof". Access to the rooftop areas is restricted. No members of the general public are allowed in the rooftop areas. Personnel accessing these areas must provide proof of training in the field of RF awareness prior to being allowed on-site.

The building does operate an observatory for the public on the 94th floor. This observatory is fully enclosed and seven stories below the rooftop. No portions of the observatory project out from the perimeter of the building and none are exposed to the RF transmissions of the antennas located on the rooftop or antenna towers.

Access to the lower rooftop is limited to building engineering and maintenance personnel and to the engineering personnel for the entities having antennas located in the rooftop areas. Access is controlled with a computerized card key access control system. Persons with the authority to access the lower roof are permitted in the area on an unsupervised basis.

Access to the upper or penthouse roof is via an enclosed stairway with a padlocked gate. To gain access to the upper roof, one must check out a mechanical key for the padlock from the Office of Engineering. Access to the upper roof is granted on a supervised basis only. Similarly, access to both tower structures is granted on a supervised basis and mechanical keys must be checked out from the engineering office.

Measurements of the intensity of the radio frequency fields have been made in both the lower and upper roof areas, as well as on the tower structures. These measurements show that on the lower roof there are no areas where the RF fields exceed the FCC Maximum Permissible Exposure (MPE) regulations for the Controlled/Occupational environments. Accordingly, authorized personnel are allowed unsupervised access to the lower roof area.

Compared to the lower roof, the upper roof is a much more complex electrical environment. While the lower roof is essentially completely open with only a window washer track around the outer perimeter, the upper roof is "enclosed" by the open grid work of the two-way radio antenna support structure. The measurements of the RF fields in this area show that they are influenced by the metallic grid work, and that there are standing waves. All areas of the penthouse roof, except the platform, are below the FCC mandated Controlled/Occupational levels. The platform, however, has several areas which exceed these limits when spatially averaged. For this reason, access to the upper roof is limited on a supervised basis.

When work is performed on the upper roof in those areas where the measured fields exceed the FCC requirements, protective suits are worn. In all areas of the upper roof these suits attenuate the RF fields sufficiently so that the exposure of the persons wearing them is significantly below the FCC standard. These measures are supervised by the Rooftop Manager. * (see attachment 1)

Measurements of the RF fields on the tower structures have also been made in certain accessible areas. These measurements show a need in some cases for stations with antennas on the opposite tower structure to reduce power when climbers are on a tower. Generally, most stations must cease transmitting from the tower on which the climbers are working. The specific acceptable operational conditions vary depending on the work being performed and where the climbers are on the tower, and their many combinations and permutations. However, all tower work is specially arranged in advance and supervised. In all cases when it is necessary, power reductions and shutdowns are made so that the work environment complies with the FCC rules. Additionally, when entering a previously inaccessible area where measurements have not been made, when working on the towers, or when in areas that exceed the FCC Controlled/ Occupational limits, workers must be competent, wear protective RF suits, and use the Narda #A8864 Personal Monitor (1000% of standard).

Summary

The rooftop areas of the John Hancock Center are not accessible to members of the general public. Access to all areas of RF emissions is limited to trained, authorized personnel. The main roof RF levels are below the FCC MPE limits for the Controlled/ Occupational environments. Access to the penthouse level is restricted to trained, authorized, and supervised personnel. Where areas of the penthouse are above the FCC Controlled/ Occupational standards, personnel are required to wear protective suits and personal monitors. In areas with RF fields exceeding FCC limits, the upper roof and the tower structures, special measures are taken and supervised to assure that the FCC standards are complied with when workers are present.

Attachments:

1. RF Safety Work Plan Outline

RF Safety Work Plan Outline

The Rooftop Manager has a program in place for ensuring worker safety. The basics of the program include the following:

1. Only personnel who have completed, documented, site-specific RF awareness training are authorized to access any of the rooftop areas and tower structures.

2. Authorized personnel accessing any areas with RF emissions must get access cards and keys only after properly identifying themselves with the Building Engineering office .

3. Only personnel who have been authorized and that make prior arrangements can gain access to specific areas as referenced above.

4. Only personnel who have completed, documented, site-specific RF awareness training are allowed on the main roof level unsupervised.

5. The penthouse may not be accessed when the auxiliary antennas are operational without the use of RF suits and 1000% personal monitors (PPDs).

6. Lockout/Tagout, power reduction and transmitter isolation procedures as well as the use of Personal Protective Devices (PPDs) are implemented when accessing the vertical apertures of the tower structures.