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Federal Communications Commission
Washington, D. C. 20554

Approved by OMB
3060-0627
Expires 01/31/98

FOR FCC USE ONLY

FCC 302-AM
APPLICATION FOR AM BROADCAST STATION LICENSE

(Please read instructions before filling out form.

FOR COMMISSION USE ONLY
FILE NO.

SECTION I - APPLICANT FEE INFORMATION

1. PAYOR NAME (Last, First, Middle Initial)

CBS Corporation

MAILING ADDRESS (Line 1) (Maximum 35 characters)
2175 K St NW STE 350

MAILING ADDRESS (Line 2) (Maximum 35 characters)

CITY	STATE OR COUNTRY (if foreign address)	ZIP CODE
Washington	DC	21046

TELEPHONE NUMBER (include area code)	CALL LETTERS	OTHER FCC IDENTIFIER (If applicable)

2. A. Is a fee submitted with this application? [✓] Yes [ ] No

B. If No, indicate reason for fee exemption (see 47 C.F.R. Section

[ ] Governmental Entity [ ] Noncommercial educational licensee [ ] Other (Please explain):

C. If Yes, provide the following information:

Enter in Column (A) the correct Fee Type Code for the service you are applying for. Fee Type Codes may be found in the "Mass Media Services Fee Filing Guide." Column (B) lists the Fee Multiple applicable for this application. Enter fee amount due in Column (C).

(A) FEE TYPE CODE	(B) FEE MULTIPLE	(C) FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
M M R	0 0 0 1	$ 615	

To be used only when you are requesting concurrent actions which result in a requirement to list more than one Fee Type Code.

(A)	(B)	(C)	FOR FCC USE ONLY
M O R	0 0 0 1	$ 705	

ADD ALL AMOUNTS SHOWN IN COLUMN C, AND ENTER THE TOTAL HERE. THIS AMOUNT SHOULD EQUAL YOUR ENCLOSED REMITTANCE.

TOTAL AMOUNT REMITTED WITH THIS APPLICATION	FOR FCC USE ONLY
$	

SECTION II - APPLICANT INFORMATION		
1. NAME OF APPLICANT CBS Radio East Inc.		
MAILING ADDRESS 2175 K St NW Ste 350		
CITY Washington	STATE DC	ZIP CODE 20037

2. This application is for:

☑ Commercial ☐ Noncommercial

☑ AM Directional ☐ AM Non-Directional

Call letters	Community of License	Construction Permit File No.	Modification of Construction Permit File No(s).	Expiration Date of Last Construction Permit
WINS	New York, NY			

3. Is the station now operating pursuant to automatic program test authority in accordance with 47 C.F.R. Section 73.1620?

☑ Yes ☐ No

If No, explain in an Exhibit.

Exhibit No.

4. Have all the terms, conditions, and obligations set forth in the above described construction permit been fully met?

☐ Yes ☐ No

If No, state exceptions in an Exhibit.

Exhibit No.

5. Apart from the changes already reported, has any cause or circumstance arisen since the grant of the underlying construction permit which would result in any statement or representation contained in the construction permit application to be now incorrect?

☐ Yes ☐ No

If Yes, explain in an Exhibit.

Exhibit No.

6. Has the permittee filed its Ownership Report (FCC Form 323) or ownership certification in accordance with 47 C.F.R. Section 73.3615(b)?

☐ Yes ☐ No

☑ Does not apply

If No, explain in an Exhibit.

Exhibit No.

7. Has an adverse finding been made or an adverse final action been taken by any court or administrative body with respect to the applicant or parties to the application in a civil or criminal proceeding, brought under the provisions of any law relating to the following: any felony; mass media related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination?

☐ Yes ☑ No

If the answer is Yes, attach as an Exhibit a full disclosure of the persons and matters involved, including an identification of the court or administrative body and the proceeding (by dates and file numbers), and the disposition of the litigation. Where the requisite information has been earlier disclosed in connection with another application or as required by 47 U.S.C. Section 1.65(c), the applicant need only provide: (i) an identification of that previous submission by reference to the file number in the case of an application, the call letters of the station regarding which the application or Section 1.65 information was filed, and the date of filing; and (ii) the disposition of the previously reported matter.

Exhibit No.

8. Does the applicant, or any party to the application, have a petition on file to migrate to the expanded band (1605-1705 kHz) or a permit or license either in the existing band or expanded band that is held in combination (pursuant to the 5 year holding period allowed) with the AM facility proposed to be modified herein?

☐ Yes ☑ No

If Yes, provide particulars as an Exhibit.

Exhibit No.

The APPLICANT hereby waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because use of the same, whether by license or otherwise, and requests and authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended).

The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations and that all the exhibits are a material part hereof and are incorporated herein as set out in full in

CERTIFICATION

1. By checking Yes, the applicant certifies, that, in the case of an individual applicant, he or she is not subject to a denial of federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, or, in the case of a non-individual applicant (e.g., corporation, partnership or other unincorporated association), no party to the application is subject to a denial of federal benefits that includes FCC benefits pursuant to that section. For the definition of a "party" for these purposes, see 47 C.F.R. Section 1.2002(b).

☑ Yes ☐ No

2. I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

Name	Signature	
Scott Herman		
Title	Date	Telephone Number
Executive Vice President	6/14/10	202 457-4518

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION

FCC NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT AND THE PAPERWORK REDUCTION ACT

The solicitation of personal information requested in this application is authorized by the Communications Act of 1934, as amended. The Commission will use the information provided in this form to determine whether grant of the application is in the public interest. In reaching that determination, or for law enforcement purposes, it may become necessary to refer personal information contained in this form to another government agency. In addition, all information provided in this form will be available for public inspection. If information requested on the form is not provided, the application may be returned without action having been taken upon it or its processing may be delayed while a request is made to provide the missing information. Your response is required to obtain the requested authorization.

Public reporting burden for this collection of information is estimated to average 639 hours and 53 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, can be sent to the Federal Communications Commission, Records Management Branch, Paperwork Reduction Project (3060-0627), Washington, D. C. 20554. Do NOT send completed forms to this address.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.

CARL T. JONES
CORPORATION

ENGINEERING EXHIBIT
IN SUPPORT OF AN
APPLICATION FOR LICENSE
STATION WINS - NEW YORK, NEW YORK
1010 kHz - 50 kW, DA-2
Facility ID: 25451

Applicant: CBS Radio East Inc.

RECEIVED
JUN 11 2010
CBS COMMUNICATIONS SERVICES

June, 2010

Carl T. Jones Corporation
7901 Yarnwood Court, Springfield, Virginia 22153-2899 (703) 569-7704 Fax: (703) 569-6417

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SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant
CBS Radio East Inc.

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

☒ Station License ☐ Direct Measurement of Power
MoM Proof

1. Facilities authorized in construction permit					
Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
				Night	Day
WINS		1010	Unlimited	50	50

2. Station location	
State	City or Town
New York	New York

3. Transmitter location			
State	County	City or Town	Street address (or other identification)
NY	Bergen	Lyndhurst	282 Polito Avenue

4. Main studio location			
State	County	City or Town	Street address (or other identification)
NY	*	New York	345 Hudson Street, 10th Floor

5. Remote control point location (specify only if authorized directional antenna)			
State	County	City or Town	Street address (or other identification)
NY	*	New York	345 Hudson Street, 10th Floor

6. Has type-approved stereo generating equipment been installed? ☐ Yes ☒ No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68? ☒ Yes ☐ No

☐ Not Applicable

Attach as an Exhibit a detailed description of the sampling system as installed.

Exhibit No.
See Eng Stmt

8. Operating constants:	
RF common point or antenna current (in amperes) without modulation for night system 32.45	RF common point or antenna current (in amperes) without modulation for day system 32.45
Measured antenna or common point resistance (in ohms) at operating frequency Night 50 Day 50	Measured antenna or common point reactance (in ohms) at operating frequency Night -j7.1 Day -j7.1

Antenna indications for directional operation

Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents	
	Night	Day	Night	Day	Night	Day
1	-86.5	-130.9	0.858	0.732	---	---
2	8.6	0.0	0.887	1.000	---	---
3	0.0	-18.9	1.000	0.744	---	---
4	96.2	108.4	1.055	0.802	---	---

Manufacturer and type of antenna monitor: Potomac Instruments, Model 1901-4, Serial No. 227

* New York City encompasses five counties: New York, Bronx, Queens, Kings, and Richmond.

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9. Description of antenna system (If directional antenna is used, the information requested below should be given for each element of the array. Use separate sheets if necessary.)

Type Radiator	Overall height in meters of radiator above base insulator, or above base, if grounded.	Overall height in meters above ground (without obstruction lighting)	Overall height in meters above ground (include obstruction lighting)	If antenna is either top loaded or sectionalized, describe fully in an Exhibit.
Uniform, cross-section, guyed	121.9	124	125	Exhibit No. N/A

Excitation ☒ Series ☐ Shunt

Geographic coordinates to nearest second. For directional antenna give coordinates of center of array. For single vertical radiator give tower location.

North Latitude				West Longitude			
	°	'	"		°	'	"
	40	48	14		74	06	24

If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits. Exhibit No. Eng

Also, if necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system. Exhibit No. On File

10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

N/A

11. Give reasons for the change in antenna or common point resistance.

N/A

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

Name (Please Print or Type)	Signature (check appropriate box below)
Carl T. Jones, Jr.	
Address (include ZIP Code)	Date
Carl T. Jones Corporation 7901 Yarnwood Court Springfield, Virginia 22153	June 10, 2010 Telephone No. (Include Area Code) (703) 569-7704

☐ Technical Director ☒ Registered Professional Engineer

☐ Chief Operator ☐ Technical Consultant

☐ Other (specify)

CARL T. JONES
CORPORATION

ENGINEERING STATEMENT OF CARL T. JONES, JR., P.E.
IN SUPPORT OF
AN APPLICATION FOR STATION LICENSE
STATION WINS – NEW YORK, NEW YORK
1010 kHz - 50 kW DA-2
Facility ID: 25451

Applicant: CBS Radio East Inc.

I am a Consulting Engineer, president in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Registered Professional Engineer in the Commonwealth of Virginia, Registration No. 013391.

1.0 GENERAL

This office has been authorized by CBS Radio East Inc. ("CBS Radio"), licensee of AM Station WINS(AM), to prepare this engineering statement and the associated figures and appendices in support of an Application for License. Computer modeling and sample system verification techniques, as described in Section 47 CFR 73.151(c) of the Commissions Rules and Regulations, were employed to verify performance of the WINS daytime and nighttime directional antenna systems. The specific measurement and modeling techniques and parameters used in performing the proof of performance on the WINS directional patterns are described in detail in this engineering statement. Impedance measurement data, sample system verification measurement data and model derived operating parameters are tabulated in the figures attached to this engineering statement. Finally, all pertinent computer model input and output files are contained in the attached Appendices A, B, C, and D.

2.0 COMPUTER MODELING AND SAMPLE SYSTEM VERIFICATION

The WINS antenna array consists of four, identical, triangular, uniform cross-section, guyed, series-fed towers. The face width of each tower is 36-inches and the height of each tower is 121.9 meters (147.9 electrical degrees at the WINS operating frequency of 1010 kHz). Tower mounted, single-turn, rigid loop sampling devices are employed to monitor the relative magnitude and phase of the current on each tower. The loops are mounted at a height on each tower which corresponds to the height at which the current is at a minimum when the tower is detuned as determined by modeling (see Appendix D for details of the detuning model). The center of the sampling loop is mounted at a height of 44.35 meters (145.5 feet) above the base, corresponding to an electrical height of 53.78 degrees. The loops are mounted in an identical manner on each tower. To minimize the potential impact of additional current paths impacting the sampled tower current, the loop on each tower is mounted on a tower leg that contains no other conductors such as lighting conduit or transmission lines associated with auxiliary antennas.

2.1 INDIVIDUAL TOWER IMPEDANCE MEASUREMENTS

Impedance measurements were performed at the base of each tower by the undersigned at the bowl insulator stud that is located inside of the detuning circuit enclosure. The schematic diagrams of Figures E-1 through E-4 contained in Appendix E show the measurement location for each of the four towers. This measurement location corresponds to the input to the tower feed line.

The impedance measurements were performed using a Hewlett-Packard Model 4396A network analyzer; an Amplifier Research Model 5W1000 power amplifier; and a Tunwall Radio directional coupler. The impedance was measured for each tower in the array with the other three towers shorted to ground. A short piece of copper strap was used to ground the non-excited towers at the same bowl insulator stud location that was used to perform the impedance measurement. The measured impedances are tabulated in Figure 2.

2.2 INDIVIDUAL TOWER COMPUTER MODELS

A Method of Moments ("MoM") computer model was developed to model each element in the array using Expert MiniNEC Broadcast Professional (Version 12.0). Each tower was modeled using a simple wire model consisting of 33 segments.

To replicate the individual measured base impedances to within FCC specified tolerances, each tower's physical height and radius was individually adjusted in the MiniNEC model and lumped series inductance and shunt capacitance was also employed in a separate circuit model. Details of the modeled individual tower adjusted height and radius are contained in Figure 1. The circuit model lumped series inductance and shunt capacitance values are contained in Figure 2.

A comparison of the measured individual tower impedances, the modeled individual tower impedances, and the adjusted modeled (circuit model) individual tower impedances is contained in Figure 2. The adjusted tower height and radius percentage change and the magnitude of the lumped series inductances and shunt capacitances are all within the corresponding tolerances set forth in the Rules.

As demonstrated by the data contained in Figure 2, the adjusted modeled individual tower resistances and reactances are well within ±2 ohms and ±4 percent of the respective measured individual tower resistances and reactances. The text files containing all necessary input and output data associated with the individual tower modeling are contained in Appendix A. Note that lumped impedances have been employed in the models at the base of the non-excited towers. These impedances correspond to the parallel combination of the lumped series inductance and the lumped shunt capacitance used to replicate each tower's measured impedance.

2.3 DIRECTIONAL ANTENNA COMPUTER MODEL

The theoretical directional antenna field parameters were used in combination with the individual tower computer models to produce the daytime and nighttime directional antenna computer models. From the computer model for each pattern, tower currents were derived that, when numerically integrated and normalized to the

appropriate reference tower, are essentially identical to the authorized field parameters of each theoretical directional antenna pattern. The antenna monitor parameters determined from the directional daytime and nighttime models are tabulated in Figure 3. The text files containing all pertinent input and output data associated with the daytime and nighttime directional antenna computer models are contained in Appendix B and C, respectively.

2.4 SAMPLE SYSTEM DESCRIPTION AND VERIFICATION MEASURMENTS

The antenna sampling system utilizes four identical Kintronic Labs, Model SLSS-3612I-DIN, stainless steel, insulated sample loops mounted in an identical manner at the same height (145.5 feet) on each tower. The outer conductor of the sample cable is electrically connected to the tower, as soon as practical, below the sample loop connector. The sample loops have dimensions of 36"H x 12"W.

A specially designed slotted isolation inductor is mounted at the base of each tower to allow the sample cable and the lighting AC and control cables to cross the base insulator of each tower. At the base of Tower #4, additional 7/8-inch transmission lines associated with three auxiliary antennas are wound as an integral part of the isolation inductor. A vacuum variable capacitor is employed in parallel with each of the isolation inductors. The vacuum variable capacitor is adjusted for parallel resonance at the WINS operating frequency of 1010 kHz.

The sample transmission line employed between the transmitter building and the isolation inductor at the base of each tower and the sample transmission line contained within the tower #1, #2, and #3 slotted isolation inductors is RFS Cellwave, Type FLC12–50J, ½-inch, phase stabilized, foam dielectric, coaxial cable. The sample line contained within the slotted isolation inductor for tower #4 is Andrew, Type LDF4-50A, ½-inch, phase stabilized, foam dielectric, coaxial cable. Short (56-inch) jumper cables are used to connect the four transmission lines to the antenna monitor. The jumper cables are Andrew, Type FSJ4-50B, ½-inch, superflex, foam dielectric, coaxial cable. The total lengths of the sample lines between the antenna monitor and the tower end of

the isolation inductor are equal. Equal lengths of RFS Cellwave, Type LCF12–50J, ½-inch, phase stabilized, foam dielectric, coaxial cable are used to connect the isolation inductor to the sample loop on each tower.

The sample cables between the phase monitor and the grounded end of the isolation inductor, including excess lengths of cable, are installed above ground on a support pier due to the fact that the WINS antenna array is located in a wetland area; therefore, the cables are subjected to the same environmental conditions. The phase monitor that is employed at WINS is a Potomac Instruments, Model 1901-4, serial number 227, last calibrated by the manufacturer in March, 2010.

The sample lines, including the lengths of cable comprising the isolation inductors, were verified to be equal in length by measuring the open-circuit series resonate frequency closest to the carrier frequency. The characteristic impedance was verified by measuring the impedance at frequencies corresponding to odd multiples of 1/8 wavelength immediately above and below the open circuit series resonant frequency closest to the carrier frequency, while the line was open circuited at the sample loop end of the line. The characteristic impedance was calculated by the following formula:

$$Z = \sqrt{\sqrt{R_1^2 + X_1^2} \times \sqrt{R_2^2 + X_2^2}}$$

where: Z = Characteristic impedance and

R1 + j X1 and **R2 + j X2** are the measured impedances at 45 degree offset frequencies.

A tabulation of the sample line length verification and characteristic impedance measurements is included herein as Figure 4. All sample line verification measurements were performed by the undersigned using a Hewlett-Packard Model 4396A network analyzer; an Amplifier Research Model 5W1000 power amplifier; and a Tunwall Radio directional coupler. As demonstrated by the measured values in Figure

4, the measured sample line lengths are within 1 electrical degree of each other and the measured characteristic impedances are well within 2 Ohms of each other as required by Section CFR73.151(c)(2)(i) of the FCC's Rules and Regulations.

An impedance measurement was performed at the input to each sample line (at the antenna monitor end of the line) with the sample loop connected. The measurement was performed at the WINS operating frequency of 1010 kHz. The measured sample line impedances with the loops connected are tabulated in Figure 4 under the heading "Reference Impedance Sample Loop Connected".

3.0 COMMON POINT IMPEDANCE AND COMMON POINT CURRENT

The networks associated with the daytime and nighttime directional antenna systems were adjusted for proper impedance transformation and the common point impedance matching networks were set for Z = 50 – j7 ohms. The transmitter output power level was adjusted such that the common point currents were 32.45 amperes to achieve an input power of 52,650 Watts.

4.0 POST CONSTRUCTION SURVEYOR'S CERTIFICATION

In accordance with FCC Public Notice DA 09-2340 entitled "Media Bureau Clarifies Procedures for AM Directional Antenna Performance Verification Using Moment Method Modeling", WINS is exempt from submitting a surveyor's certification in that the licensee is only applying to re-license the station under the computer modeling and sample system verification Rules and no changes to the authorized theoretical patterns are being proposed. Therefore, a surveyor's certificate is not included in the instant application.

5.0 REFERENCE FIELD STRENGTH MEASUREMENTS

Reference field strength measurements were performed on the following five radial bearings in the daytime operating mode: 10.5°, 100°, 194°, 242° and 295°. In the nighttime operating mode, reference field strength measurements were performed on

the following four radial bearings: 100°, 264°, 295°, and 336.5°. The 100° radial bearing corresponds to the main lobe of the daytime and nighttime directional patterns while all other selected bearings correspond to FCC assigned monitored radials. The monitored radials correspond closely with daytime and nighttime pattern minima.

Three reference field strength measurements were performed on each of the selected radials. The measurements were performed by Mr. Mark Olkowski, Director of Broadcast Operations/Engineering for CBS Radio New York. Mr. Olkowski is experienced in performing field strength measurements on AM directional patterns. The field strength meter used to perform the measurements is a Potomac Instruments, Model FIM-41, field intensity meter, Serial Number 625, most recently calibrated by the manufacturer in March, 2010.

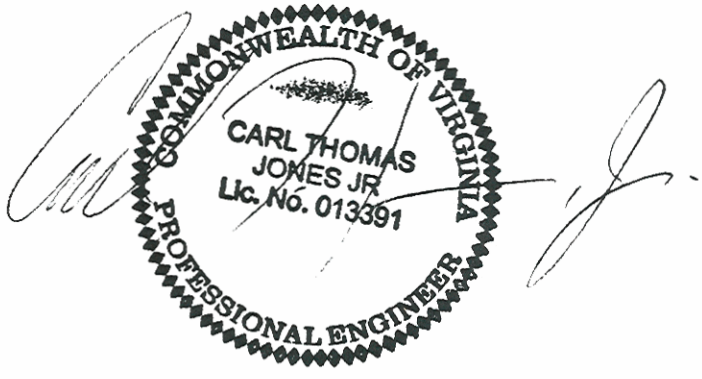
The measured field strength value for each established reference location is contained in Figure 5. The tables of Figure 5 also include GPS coordinates (NAD83), distance from array center, and descriptions for each reference point location.

6.0 SUMMARY

It is submitted that the WINS daytime and nighttime directional antenna systems have been adjusted to conform to the technical specifications contained in the station's FCC Authorization. The daytime and nighttime pattern performance has been verified using computer modeling and sample system verification procedures in accordance with Section 47 CFR 73.151(c). It is believed that daytime and nighttime antenna systems, as adjusted, fully comply with the terms of the station's FCC Authorization and all applicable FCC Rules and Regulations. It is requested that a superseding license be issued reflecting the new model derived daytime and nighttime operating parameters as contained herein.

This engineering statement and the attached figures were prepared by the undersigned or under the direct supervision of the undersigned and are believed to be true and correct.

Dated: June 10, 2010



Carl T. Jones Corporation
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