

TECHNICAL EXHIBIT
PARTIAL PROOF-OF-PERFORMANCE
CLEAR CHANNEL BROADCASTING LICENSES, INC.
RADIO STATION WKIP
POUGHKEEPSIE, NEW YORK

February 26, 2002

1450 KHZ 1 KW U DA-D

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Engineering Statement

The technical exhibit of which this narrative is part was prepared on behalf of Clear Channel Broadcasting Licenses, Inc., licensee of AM broadcast station WKIP, Poughkeepsie, New York. WKIP operates on 1450 KHZ with a power of 1 KW both day and night. It operates with a two-tower directional antenna daytime and employs a non-directional antenna for nighttime operation. This report details the results of a partial proof-of-performance of the WKIP daytime directional antenna and information regarding direct measurement of power for the nighttime non-directional antenna following readjustment of the directional antennas operating parameters.

The readjustment work and partial proof-of-performance followed work on two co-located FM stations, WRNQ and WPFK, under construction permit numbers BXPB-19991112ACV and BXPB-19991112ACU. The FM CP work included the installation of transmission line and a new antenna system for auxiliary operation for WRNQ and WPFK on tower one of the WKIP

array. The transmission line is insulated from the tower to the one quarter wavelength point, then bonded to the tower at intervals for the rest of its length.

Included herein are the detailed measurement data concerning the partial proof-of-performance of the daytime directional antenna system as required by conditions on the FM construction permits. Information regarding measurement of the non-directional nighttime base impedance is also included. As can be seen from the information provided, the partial proof-of-performance field strength and base impedance measurements reflect operation of the WKIP daytime directional antenna pattern within the Rules of the FCC and the terms of the station license.

Antenna Sampling System

The Potomac Instruments type AM-19(204) antenna monitor employed by WKIP remains unchanged.

Field Strength Measurements

Field strength measurements were made along the 2 monitor point radials and the two non-monitored radials closest to them and at locations specified in the latest full proof-of-performance (1966) for the daytime pattern. Distances to those locations from the WKIP transmitter site have been converted from miles to kilometers. Field strength measurements were made for the daytime directional antenna with an input power of 1,080 watts. A tabulation of meter readings for the measured patterns is included herein as Figure 1. Figure 2 summarizes the results of the field

strength measurements. A tabulation of the measured field strength data is included as Figure 3.

Field strength measurements were made by Mr. William Weeks and Mr. William Draper. A Potomac Instruments field strength meter and a Nems Clarke field strength meter, as tabulated below, were used for the measurements. Field strength readings with the both meters were cross-checked and found to agree within the range suggested by their manufacturer's rated accuracy.

Meter Type	Serial Number
PI FIM-211	171
NC 120E	1289

Field Strength Measurement Analysis

Field strength measurements were analyzed in accordance with Section 73.154 of the FCC Rules. The ratios of measured 2001 directional to measured 1966 directional fields were averaged for each radial. The radial averages thus obtained were multiplied by the corresponding 1966 measured radial directional unattenuated fields to determine the present directional radiation values for the four daytime radials.

Direct Measurement of Power

The common-point impedance for the daytime directional antenna and the tower 1 base impedance for the

nighttime antenna were measured after the minor adjustments of the antenna phasing and coupling equipment had been completed. Tabulations of measured impedance data for the daytime and nighttime operation are included in Figure 1. Impedance measurements were made by Mr. William Weeks utilizing a Delta OIB-1, SN266, impedance bridge. The accuracy of the bridge used was checked with a precision resistor prior to its use and was found to be within the manufacturer's specifications.

Tower Sketch

As a condition with the construction permits for the two FM stations, WRNQ and WPKF, a sketch is required for the towers impacted by the modifications. Figure 4 shows the tower sketch of the installation.



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Figure 1

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Tabulation of Meter Readings

Daytime Directional

	<u>Tower 1</u>	<u>Tower 2</u>
Antenna Monitor Ratio	0.220	1.000
Antenna Monitor Phase (deg)	+147.0	+0.0
Daytime Common Point Impedance		50 + j1.4 ohms
Daytime Common Point Current		4.65 amperes
Daytime Antenna Input Power		1080 watts

Nighttime Non-Directional

Nighttime Tower #1 Base Impedance	62 - j294 ohms
Nighttime Tower #1 Base Current	4.02 amperes
Nighttime Antenna Input Power	1000 watts

Figure 2

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Summary of Measured Field Strength Data

Radial deg. T	1966 Measured DA-Day (1 kW)	2001 Measured DA-Day (1 kW)	Standard Pattern DA-Day (1 kW)
150	117.5	82.2	136.8 *
176	115.9	77.2	136.8
200	120.7	88.3	136.8 *
238	196.3	147.6	209.2

* Monitored Radial

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Tabulation of Measured Field Strength Data

150 Degrees True Radial - Day

Point Number	Distance (km)	1966	2001 1 kW, DAD		Ratio (DA/DA)
		1 kW, DAD	Date & Time (local)	Field Strength (mV/m)	
			6/6/2001		
9MP	2.38	24.0	1410	23.0	0.958
15	3.25	12.5	1418	11.0	0.880
17	5.07	6.90	1425	4.10	0.594
19	6.23	4.90	1437	2.20	0.449
22	7.93	2.70	1448	1.70	0.630
23	9.04	2.10	1454	1.30	0.619
24	10.67	1.80	1513	1.15	0.639
25	11.94	0.900	1521	0.780	0.867
26	15.24	0.470	1530	0.310	0.660
Average Ratio:					0.699
1966 DA Analyzed Field Strength (mV/m):					117.5
2001 DA Analyzed Field Strength (mV/m):					82.2

176 Degrees True Radial - Day

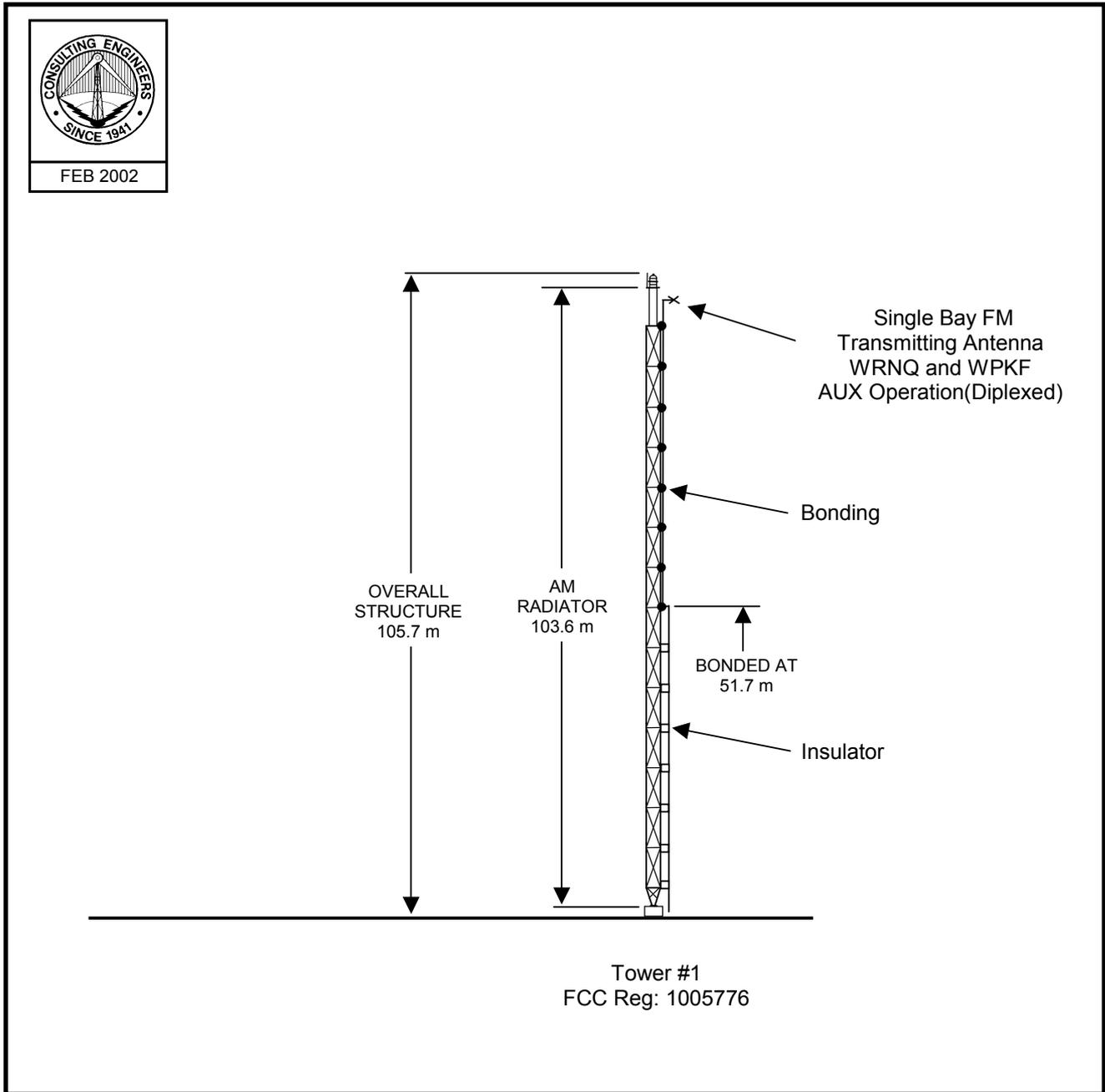
Point Number	Distance (km)	1966 1 kW, DAD	2001 1 kW, DAD		Ratio (DA/DA)
		Field Strength (mV/m)	Date & Time (local)	Field Strength (mV/m)	
			6/6/2001		
14	3.27	15.5	1647	11.0	0.710
16	4.81	7.40	1640	5.00	0.676
17	5.47	6.55	1634	3.40	0.519
18	6.24	4.75	1629	2.60	0.547
22	9.12	2.30	1618	2.20	0.957
23	10.12	1.60	1611	0.900	0.563
24	11.68	1.20	1603	1.10	0.917
25	14.61	1.00	1545	0.440	0.440
Average Ratio:					0.666
1966 DA Analyzed Field Strength (mV/m):					115.9
2001 DA Analyzed Field Strength (mV/m):					77.2

200 Degrees True Radial - Day

Point Number	Distance (km)	1966 1 kW, DAD	2001 1 kW, DAD		Ratio (DA/DA)
		Field Strength (mV/m)	Date & Time (local)	Field Strength (mV/m)	
			6/6/2001		
11MP	2.17	33.5	1336	34.0	1.015
21	4.38	9.05	1344	6.20	0.685
23	5.76	5.00	1350	5.00	1.000
26	7.88	4.70	1359	3.40	0.723
27	8.59	2.60	1403	2.50	0.962
28	9.38	2.40	1411	1.55	0.646
29	10.30	2.40	1417	1.20	0.500
30	12.21	1.62	1443	0.780	0.481
31	13.27	0.980	1427	0.560	0.571
Average Ratio:					0.732
1966 DA Analyzed Field Strength (mV/m):					120.7
2001 DA Analyzed Field Strength (mV/m):					88.3

238 Degrees True Radial - Day

Point Number	Distance (km)	1966 1 kW, DAD	2001 1 kW, DAD		Ratio (DA/DA)
		Field Strength (mV/m)	Date & Time (local)	Field Strength (mV/m)	
			6/6/2001		
20	3.97	22.5	1519	19.5	0.867
21	4.22	19.0	1527	19.0	1.000
24	7.03	7.10	1551	4.70	0.662
25	7.43	6.30	1554	3.70	0.587
27	9.01	5.00	1634	2.70	0.540
29	10.14	3.55	1630	2.50	0.704
30	11.42	2.30	1625	2.45	1.065
32	14.64	1.00	1612	0.590	0.590
Average Ratio:					0.752
1966 DA Analyzed Field Strength (mV/m):					196.3
2001 DA Analyzed Field Strength (mV/m):					147.6



SKETCH OF ANTENNA

**RADIO STATION WKIP
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SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant

Clear Channel Broadcasting Licenses, Inc.

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

Station License

Direct Measurement of Power

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
WKIP	N/A	1450	U	1.0	1.0

2. Station location

State	City or Town
Pennsylvania	Poughkeepsie

3. Transmitter location

State	County	City or Town	Street address (or other identification)
PA	Dutchess	Poughkeepsie	Van Wagner Road

4. Main studio location

State	County	City or Town	Street address (or other identification)
PA	Dutchess	Poughkeepsie	20 Tucker Drive

5. Remote control point location (specify only if authorized directional antenna)

State	County	City or Town	Street address (or other identification)
N/A			

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.

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system 4.02	RF common point or antenna current (in amperes) without modulation for day system 4.65
Measured antenna or common point resistance (in ohms) at operating frequency Night Day 62.0 50.0	Measured antenna or common point reactance (in ohms) at operating frequency Night Day N/A N/A

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	N/A	+147.0	N/A	0.220	N/A	N/A
2		0.0		1.000		N/A

Manufacturer and type of antenna monitor:

Potomac Instruments AM-19 (204)

