

TECHNICAL EXHIBIT
APPLICATION FOR LICENSE
RADIO STATION WBLI(FM)
PATCHOGUE, NEW YORK
CH 291B 49 KW (MAX-DA) 152 M

Technical Statement

This Technical Exhibit, of which this statement is part, was prepared on behalf of radio station WBLI(FM) on Channel 291B at Patchogue, New York. It was recently observed that WBLI(FM) had the incorrect transmitting antenna model number identified on its license. Therefore, the purpose of this application is to correct the antenna model number specified on the license, which apparently was inadvertently incorrectly identified in the original WBLI(FM) application for license. As described below, the exhibits to the original WBLI(FM) license application and STA requests identified the correct antenna model number. There are no actual changes made to the WBLI(FM) antenna - the antenna model identified herein is the antenna that was actually installed when the original license application was filed.

Special Conditions

Even though there are no actual changes requested or completed by this herein license application, the original antenna proof-of-performance for the directional antenna is provided as Appendix A, the licensed surveyor affidavit establishing the orientation of the directional

antenna is provided as Appendix B, and the engineering supervisor during the WBLI(FM) construction provides his affidavit and certification as Appendix C. These documents were originally filed with the WBLI(FM) application for license and STA requests as requested by the Commission.¹

The specified antenna continues to remain in compliance with Section 73.1690(c)(2) of the Commission's Rules in that the measured composite directional antenna pattern does not exceed the licensed composite directional pattern at any azimuth, no change in the effective radiated power will result, and the station will continue to comply with the principal community requirements.

Charles A. Cooper

May 13, 2003

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
941.329.6000

¹ Documents can be obtained from WBLI(FM) license application BLH-940614KA and March 9, 1994, March 21, 1994, March 23, 1994 and March 24, 1994 STA requests.

ATTACHMENT A

DIRECTIONAL ANTENNA
PROOF-OF-PERFORMANCE

S.O.16211/16344
Report of Test 6810-5D-SS-DA
for
WBLI, INC.
WBLI PATCHOGUE, NY

OBJECTIVE:

The objectives of this test was to demonstrate the directional characteristics of a 6810-5D-SS-DA antenna to meet the needs of WBLI and to comply with the requirements of the FCC construction permit, file number BPH-930813IA.

RESULTS:

The measured azimuth pattern for the 6810-5D-SS-DA is shown in Figure 1. Figure 1A shows the Tabulation of the Horizontal Polarization. Figure 1B shows the Tabulation of Vertical Polarization. The calculated elevation pattern of the antenna is shown in Figure 3. Construction permit file number BPH-930813IA indicates that neither the horizontal or the vertical radiation components shall exceed 45.00 kW at any azimuth, and each component shall be restricted to the following values at the azimuths specified:

8.128 kW @ 010 Degrees T
15.138 kW @ 050 Degrees T
7.200 kW @ 260 Degrees T
13.613 kW @ 310 Degrees T

From Figure 1, the maximum radiation of the horizontal component occurs at 080 Degrees T to 088 Degrees T. At the restricted azimuth of 010 Degrees T the horizontal component is 10.458 dB down from the maximum of 45.00 kW, or 4.05 kW.

At the restricted azimuth of 050 Degrees T, the horizontal component is 5.433 dB down from the maximum of 45.00 kW, or 12.880 kW. At the restricted azimuth of 260 Degrees T, the horizontal component is 9.76 dB down from the maximum of 45.00 kW, or 4.753 kW. At the restricted azimuth of 310 Degrees T, the horizontal component is 8.52 dB down from the maximum of 45.00 kW, or 6.328 kW.

The R.M.S. value of the horizontal component is 0.610 and the R.M.S. value of the vertical component is 0.600. The total horizontal power gain is 4.425. The total vertical power gain is 4.250.

METHOD OF MEASUREMENT:

As allowed by the construction permit, file number BPH-930813IA, a single level of the 6810-5D-SS-DA antenna was set up on the Howell Laboratories scale model antenna pattern measuring range. A scale of 4.5:1 was used.

SUPERVISION:

The tests were carried out under the direction of Robert A. Surette, Manager of RF Engineering. Mr. Surette was graduated from Lowell Technological Institute, Lowell, Massachusetts in 1973 with the degree of Bachelor of Science in Electrical Engineering. He has been directly involved with both full size and scale model pattern measurements since 1974 as an RF Engineer with Shively Labs and with Dielectric Communications (a unit of General Signal). He is currently an Associate Member of the Association of Federal Communications Consulting Engineers and a Member of IEEE.

METHOD OF DIRECTIONALIZATION:

The 6810 bay was mounted on a tower of exact scale to a Rohn SSMV tower. The spacing of the antenna to the tower was varied to achieve the vertical pattern shown in Figure 1. A horizontal parasitic element was placed directly under the bay. The position of this horizontal parasitic element was changed until the horizontal pattern shown in Figure 1 was achieved. See Figure 2 for mechanical details.

EQUIPMENT:

The scale model pattern range consists of a wooden rotating pedestal equipped with a position indicator. The scale model bay is placed on the top of this pedestal and is used in the transmission mode at approximately 20 feet above ground level. The receiving corner reflector is spaced 50 feet away from the rotating pedestal at the same level above ground as the transmitting model. The transmitting and receiving signals are carried to a control building by means of RG-9/U double shielded coax cable.

The control building is equipped with:

Hewlett Packard Model 8505 Network Analyzer
Hewlett Packard Model 16 Series 200 Computer
Hewlett Packard 9122 Dual Disc Drive
Hewlett Packard 7475A Plotter

TEST PROCEDURES:

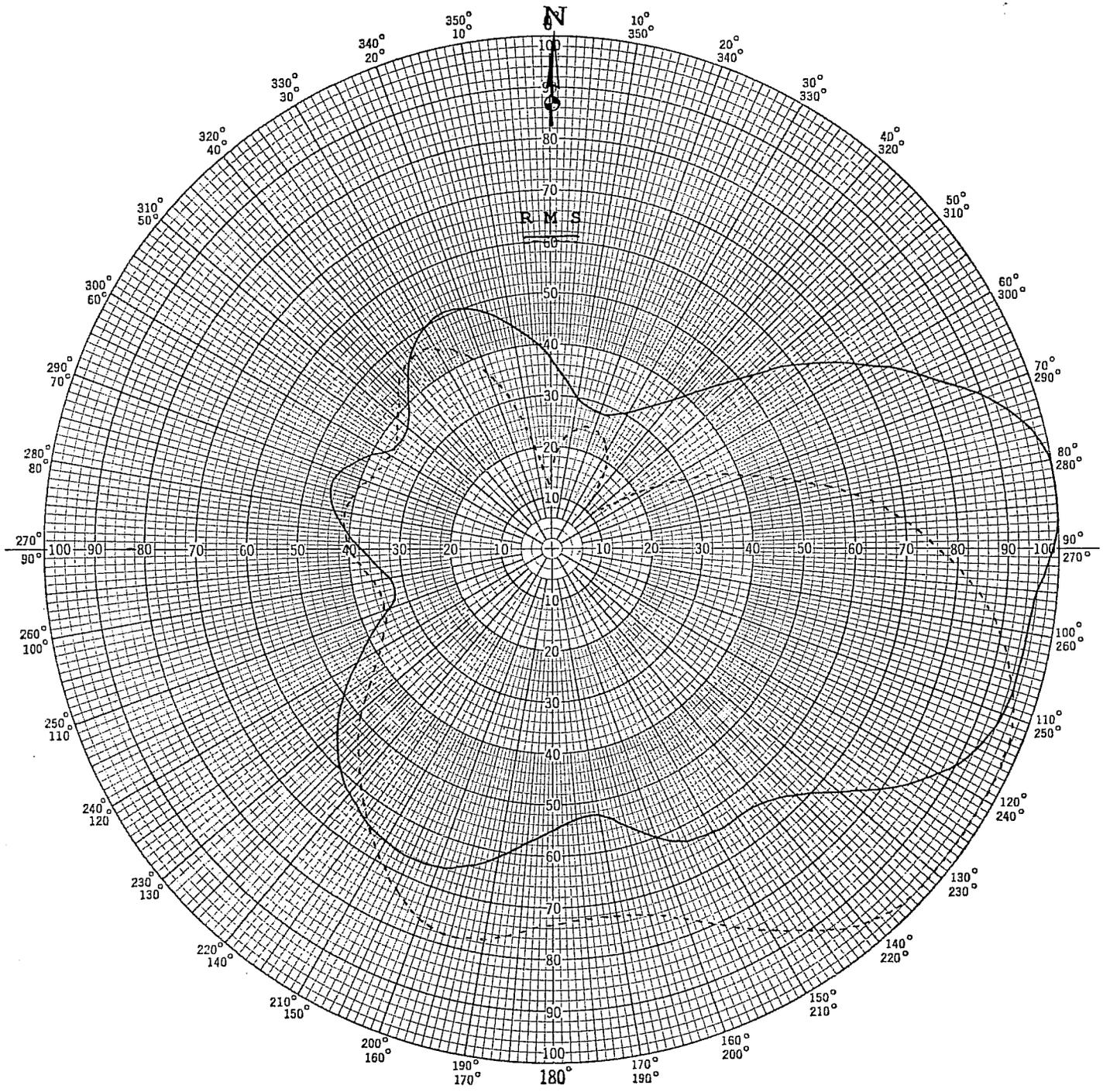
The corner reflector is mounted so that the horizontal and vertical azimuth patterns are measured independently by rotating the corner reflector by 90 degrees. The network analyzer was set to 477.45 MHz. Calibrated pads are used to check the linearity of the measuring system. For example, 6 dB padding yields a scale reading of 50 from an unpadding reading of 100 in voltage. From the recorded patterns, the R.M.S. values are calculated and recorded as shown in Figure 1.

Respectfully submitted by:



Robert A. Surette
Manager of RF Engineering
S/O 1616211/16344
March 17, 1994

FIGURE 1



Shively Labs

PROJECT NAME WBLI PATCHQUE, NY

PROJECT NUMBER 16211/16344 DATE _____

MODEL () FULL SCALE () FREQUENCY 477.45/106.1MHz

POLARIZATION HORIZ (——); VERT(-----)

CURVE PLOTTED IN: VOLTAGE () POWER () DB ()

OBSERVER RAS

ANTENNA TYPE 6810-5D-SS-DA

PATTERN TYPE DIRECTIONAL AZIMUTH

REMARKS: SEE FIGURE 2 FOR
MECHANICAL DETAILS

Figure 1A

TABULATION OF HORIZONTAL POLARIZATION
WBLI-FM PATCHOGUE, NY.

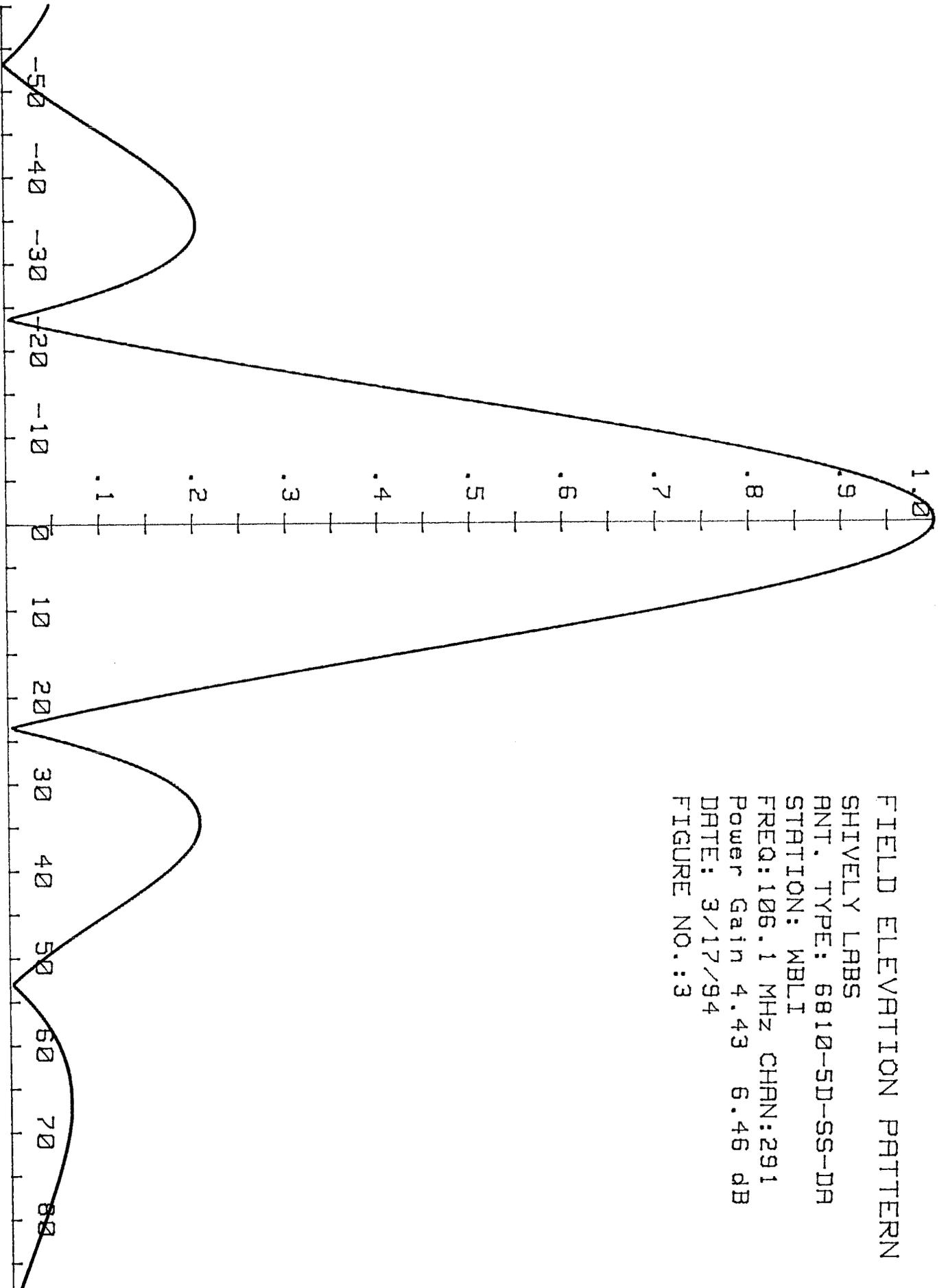
DEGREE	RELATIVE FIELD	DEGREE	RELATIVE FIELD
0	0.370	180	0.550
10	0.300	190	0.610
20	0.280	200	0.660
30	0.310	210	0.660
40	0.385	220	0.625
45	0.450	225	0.600
50	0.535	230	0.560
60	0.720	240	0.450
70	0.900	250	0.345
80	1.000	260	0.325
90	0.980	270	0.375
100	0.945	280	0.435
110	0.940	290	0.445
120	0.870	300	0.380
130	0.740	310	0.375
135	0.680	315	0.400
140	0.645	320	0.445
150	0.635	330	0.505
160	0.610	340	0.500
170	0.530	350	0.440

Figure 1B

TABULATION OF VERTICAL POLARIZATION
WBLI-FM PATCHOGUE, NY

DEGREE	RELATIVE FIELD	DEGREE	RELATIVE FIELD
0	0.150	180	0.735
10	0.235	190	0.770
20	0.245	200	0.775
30	0.215	210	0.690
40	0.105	220	0.590
45	0.105	225	0.550
50	0.120	230	0.495
60	0.240	240	0.395
70	0.425	250	0.350
80	0.605	260	0.355
90	0.760	270	0.400
100	0.885	280	0.415
110	0.965	290	0.390
120	0.980	300	0.365
130	0.980	310	0.395
135	0.980	315	0.420
140	0.955	320	0.445
150	0.860	330	0.440
160	0.770	340	0.365
170	0.730	350	0.210

FIELD ELEVATION PATTERN
SHIVELY LRBS
ANT. TYPE: 6810-5D-SS-DA
STATION: WBLI
FREQ: 106.1 MHz CHAN: 291
Power Gain 4.43 6.46 dB
DATE: 3/17/94
FIGURE NO.: 3



ATTACHMENT B

LICENSED SURVEYOR AFFIDAVIT

LOUIS T. ROMEO, CONSULTING ENGINEER

781 N.Y.S. ROUTE 25A, P.O. BOX 1106, SETAUKET, NEW YORK 11733

TELEPHONE 516-941-4252

March 18, 1994

LTR # 31 -94

Page 1 of 1

TO WHOM IT MAY CONCERN:

- 1.0 Owner of Antenna: STATION WBLI
3090 NYS Route 112
Medford, N.Y. 11763

- 2.0 Antenna Location: Willow Avenue, Selden,
Town of Brookhaven, County of Suffolk,
State of New York

- 3.0 Source of Magnetic Declination: USGS, March 18, 1994
13° 45' 30" W of True North
(USGS, Colorado, 303-273-8486)

- 4.0 Antenna's Direction from True North:
 - .1 176° - 00' - 00"
 - .2 176° - 00' - 00"
 - .3 176° - 00' - 00"
 - .4 176° - 00' - 00"
 - .5 176° - 00' - 00"

- 5.0 Manufacture and Model of Antenna: Shively Laboratories (Div. Howell Labs)
Bridgeton, Maine,
Model 6810-~~5~~D-Directional Antenna.

This is to certify that the above statements are true.

Very truly yours

Louis T. Romeo

Louis T. Romeo



ATTACHMENT C

ENGINEERING AFFIDAVIT

LOUIS T. ROMEO, CONSULTING ENGINEER

781 N.Y.S. ROUTE 25A, P.O. BOX 1106, SETAUKET, NEW YORK 17733

RECEIVED
Mar 24 1 29 PM '94

Telephone: 518-941-4252

FM BRANCH

March 23, 1994

W.B.L.I.
3090 Route 112
Medford, NY 11763

Attention: Mr. John Bachman

Gentlemen:

This will certify that I have been a licensed professional engineer in the State of New York since 1958 and hold a Bachelor of Science in Civil Engineering degree from City College of New York.

I further certify that the installation of the WBLI antenna was overseen by me and that the installation of that antenna was completed pursuant to the instructions of the manufacturer, Shively Labs.

I hope that this is satisfactory for your purposes.



Very truly yours,

Louis T. Romeo

Louis T. Romeo

STRUCTURAL DESIGN - CONSTRUCTION MGMT-HEATING & A.C.
DESIGN-ELECTRICAL DESIGN-PLUMBING DESIGN

ALLEN TOWER CORPORATION

RECEIVED

779 SUSQUEHANNA AVENUE
FRANKLIN LAKES, NJ 07417

MAR 23 1994

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Phone: (201) 847-8545 -- Fax: (201) 847-9311

March 23, 1994

W.B.L.I.
3090 Route 112
Medford, NY 11763

Attention: Mr. John Bachman

Gentlemen:

This letter will supplement my letter of March 18, 1994, to WBLI regarding the installation of the WBLI antenna. I understand that the FCC has requested that we describe my qualifications to certify that the installation has been done properly.

I am the President and owner of Allen Tower Corporation which was founded in 1986. The company's primary business is the rigging of communications towers. Since 1986 I have personally supervised the installation of more than ten FM antennas, including 3 (in addition to WBLI's) in the past year. I have been involved in the tower rigging business either on my own or working for other companies for the last fifteen years.

I hope that this is satisfactory for your purposes.
Very truly yours,

ALLEN TOWER CORPORATION



Patrick J. Allen, Jr.
President