

JOHN J. MULLANEY
JOHN H. MULLANEY, P.E. (1994)
ALAN E. GEARING, P.E.
TIMOTHY Z. SAWYER

301 921-0115 Voice
301 590-9757 Fax
mullengr@aol.com E-mail

MULLANEY ENGINEERING, INC.

9049 SHADY GROVE COURT
GAITHERSBURG, MD 20877

ENGINEERING EXHIBIT EE-1:

**R AND S BROADCASTING LLC
LOW-POWER TELEVISION STATION WESA-LP**

**DIGITAL CHANNEL 34
"FLASH-CUT" APPLICATION**

MAY 2010

FCC FACILITY NUMBER: 31453

ENGINEERING EXHIBIT
IN SUPPORT OF
AN APPLICATION FOR AUTHORITY TO CONSTRUCT
OR MAKE CHANGES IN A
LOW-POWER TELEVISION BROADCAST STATION

ENGINEERING EXHIBIT EE-1:

**R AND S BROADCASTING LLC
LOW-POWER TELEVISION STATION WESA-LP**

**DIGITAL CHANNEL 34
"FLASH-CUT" APPLICATION**

MAY 2010

TABLE OF CONTENTS:

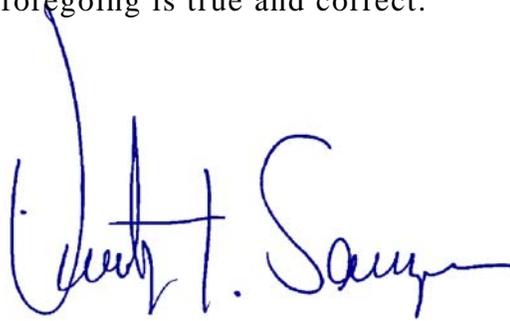
1. F.C.C. Form 346, Section III (Certification)
2. F.C.C. Form 346, Section III (Engineering Digital)
3. Declaration of Engineer
4. Narrative Statement
5. Figure 1, Predicted Coverage Contours
6. Figure 2, Directional Antenna Details
7. Figure 3, Allocation Study

DECLARATION

I, Timothy Z. Sawyer, declare and that I have provided engineering services in the area of telecommunications since 1969. My qualifications are a matter of record with the Federal Communications Commission. I am a senior engineer with the firm of Mullaney Engineering, Inc., consulting radio telecommunications engineers with offices in Gaithersburg, Maryland.

The firm of Mullaney Engineering, Inc., has been retained by R AND S BROADCASTING LLC, to prepare the instant engineering exhibit in support of *an application for Authority to Construct or Make Changes in a Low-Power Television Broadcast Station, FCC FACILITY ID NUMBER: 31453.*

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



Timothy Z. Sawyer

Executed on the 13th day of May 2010

ENGINEERING EXHIBIT EE-1:

**R AND S BROADCASTING LLC
LOW-POWER TELEVISION STATION WESA-LP**

**DIGITAL CHANNEL 34
"FLASH-CUT" APPLICATION**

MAY 2010

NARRATIVE STATEMENT:

I. GENERAL:

This engineering statement and the instant engineering exhibit of which it is part has been prepared on behalf of R AND S BROADCASTING LLC, (hereinafter "RSB").

REPLACEMENT DIGITAL LPTV CONSTRUCTION PERMIT APPLICATION:

Station WESA-LP holds a digital flash-cut construction permit (BMPDTL-20090506AAE) to operate on digital channel 34 with a directional antenna and a maximum effective radiated power (ERP) of 15-kW, and an antenna height above mean sea level (RCAMSL) of 283.5 meters with an antenna height above ground (AGL) of 36.6 meters. That permit expires on May 14, 2010.

RSB proposes in this application to reapply for the facilities as authorized in the previous digital permit, and concurrent with the filing of this application requests cancellation of the current expiring digital construction permit.

The proposed facilities will be built to comply with the *FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields* and the instant proposal is categorically excluded from environmental processing pursuant to the provisions of Section 1.1306 of the Commission's Rules. A more detailed discussion of environmental factors is included under the heading Environmental Considerations below.

Information requested by exhibits in response to questions on Section III of FCC Form 346 (digital) is incorporated in the following paragraphs, figures and/or tables.

Processing of this application is requested under the rules currently in effect at the time of filing.

ENGINEERING DISCUSSION:

Figure 1 is a map showing the present (74 dBu) analog and the proposed 51 dBu digital coverage contours. As can be seen on the map, the 51 dBu digital contour overlaps the authorized analog contour as required by the Commission's minor change rules.

PROPOSED FACILITIES:

This application proposes digital operation on the current analog channel assignment (TV channel 34), at the authorized transmitter site using the same antenna system.

The antenna supporting structure is 59.4 meters in overall height above the ground and has been registered with the FCC and issued tower registration number: 1007622. No changes are proposed to the existing structure. The ground elevation above mean sea level (AMSL) of the site is 246.9 meters.

The applicant proposes to side-mount its antenna with a center of radiation at 36.6 meters above ground on the existing structure.

This is an existing communication site that has been authorized for use by WESA-LP.

Figure 2 contains a horizontal radiation (relative field) pattern of the directional horizontal radiation pattern.

ALLOCATION CONSIDERATIONS:

A study has been conducted to assure that the proposal will not create prohibited interference with other licensed, authorized or pending analog or digital full-service TV, LPTV or TV Translator or Class-A TV stations.

Using the procedures outlined in the FCC's OET-69 Bulletin, a 1-kilometer cell size resolution and 1990 U.S. Census, the proposal complies with the current FCC policy (i.e., less than 0.5% new interference caused to other pertinent assignments).

Each station of concern has been analyzed using the methods described in OET Bulletin No. 69, and the results indicate that no interference (unmasked) or interference above 0.5% of the service population of the station studied will occur.

The results of the OET Bulletin No. 69 styled study are contained with Figure 3.

The applicant recognizes that its proposal is secondary to authorized full-service and Class-A television analog or digital operations or proposals.

Previously protected full-service ANALOG stations that have notified the Commission and cease analog operation are not protected in accordance with the Commission's rules and policies concerning required protection to pre and post DTV transition facilities.

ENVIRONMENTAL CONSIDERATIONS:

The applicant believes its proposal will not significantly affect the environment for the following reasons.

The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights.

Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)

Based upon a worst case downward field value of 0.15 for all angles 15 degrees and greater below the horizon, and a digital power of 15 kilowatts, and an antenna height of 36.6 meters above ground. The power density level 2-meters above ground is predicted to be 0.0038 mW/cm² or less. The computed power density is 0.192% of the Commission's guidelines for a controlled area and 0.961% for an uncontrolled area. This level is well below the Commission's guidelines for maximum exposure levels to electromagnetic fields and no further study is required.

The applicant will fully-cooperate and coordinate with all site users as required by the Commission's rules.

II SUMMARY:

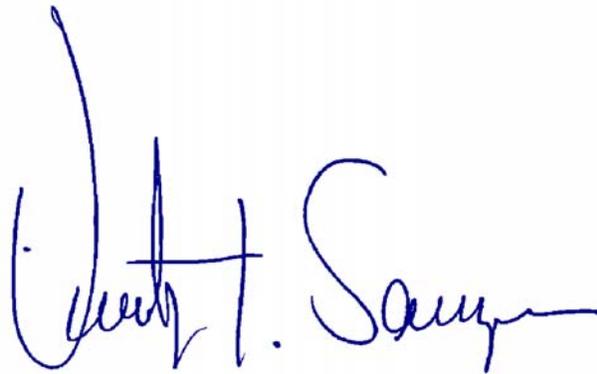
The proposed station will operate on Digital Television Channel 34 with a maximum ERP of 15- kilowatts (15,000 Watts), utilizing a DIRECTIONAL antenna system.

The estimated digital transmitter power output to produce the requested ERP is 365 watts.

Operation as proposed herein would not cause/increase any normally prohibited contour overlap using a terrain dependant - OET Bulletin No. 69 review, and would not have any significant impact on the environment. The proposed operation will not create any new prohibited interference.

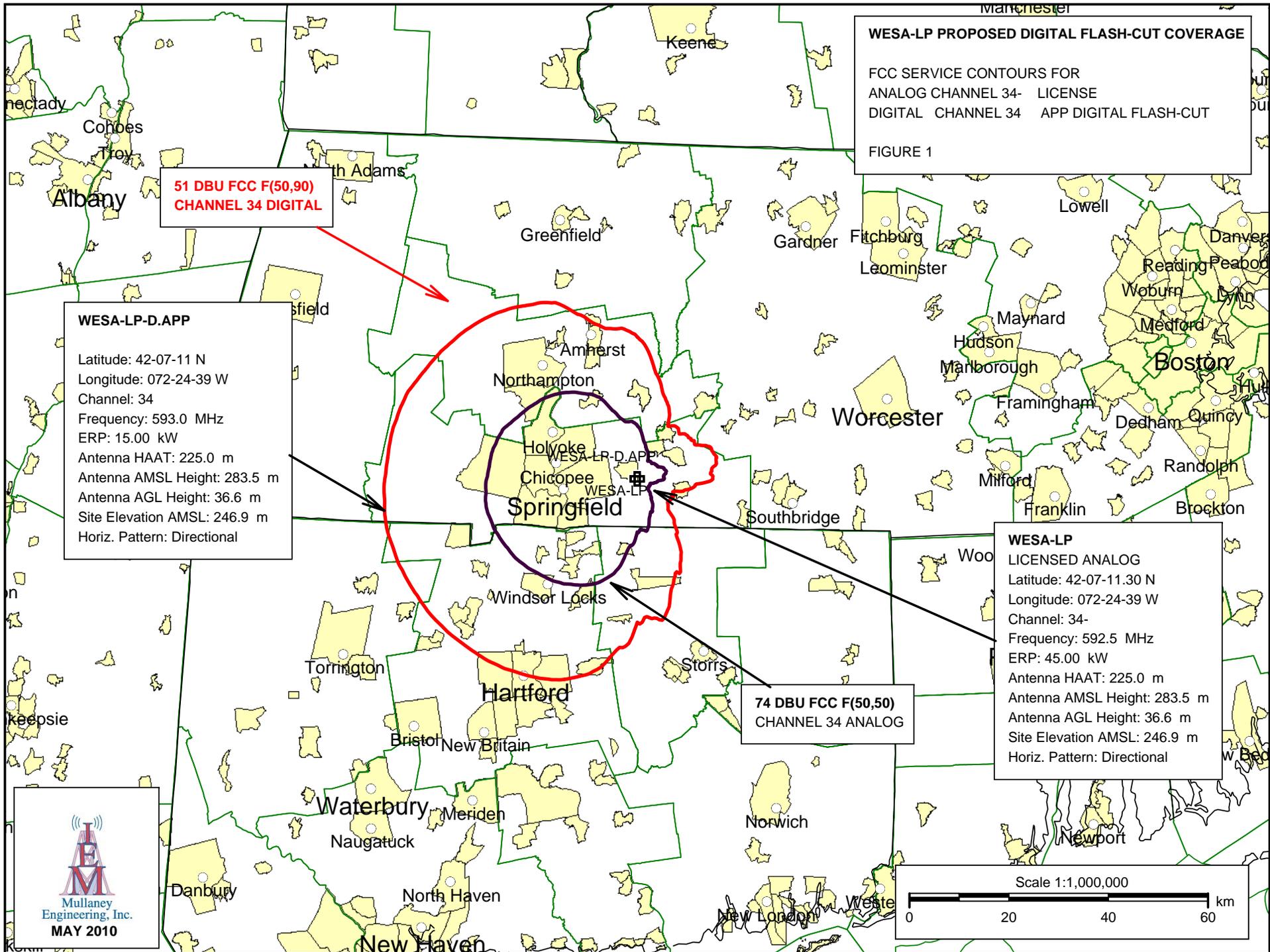
The proposed operation is fully in compliance with all other areas of the Commission's rules and applicable international agreements.

13 May 2010

A handwritten signature in blue ink, appearing to read "Timothy Z. Sawyer". The signature is written in a cursive style with a large initial "T" and "S".

Timothy Z. Sawyer

MULLANEY ENGINEERING, INC.
9049 SHADY GROVE COURT
GAITHERSBURG, MARYLAND USA
TEL.: (301) 921-0115



WESA-LP PROPOSED DIGITAL FLASH-CUT COVERAGE

FCC SERVICE CONTOURS FOR
 ANALOG CHANNEL 34- LICENSE
 DIGITAL CHANNEL 34 APP DIGITAL FLASH-CUT

FIGURE 1

**51 DBU FCC F(50,90)
 CHANNEL 34 DIGITAL**

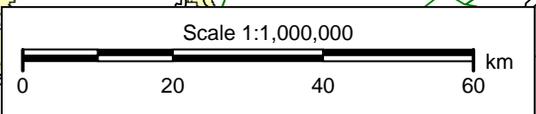
WESA-LP-D.APP

Latitude: 42-07-11 N
 Longitude: 072-24-39 W
 Channel: 34
 Frequency: 593.0 MHz
 ERP: 15.00 kW
 Antenna HAAT: 225.0 m
 Antenna AMSL Height: 283.5 m
 Antenna AGL Height: 36.6 m
 Site Elevation AMSL: 246.9 m
 Horiz. Pattern: Directional

**74 DBU FCC F(50,50)
 CHANNEL 34 ANALOG**

**WESA-LP
 LICENSED ANALOG**

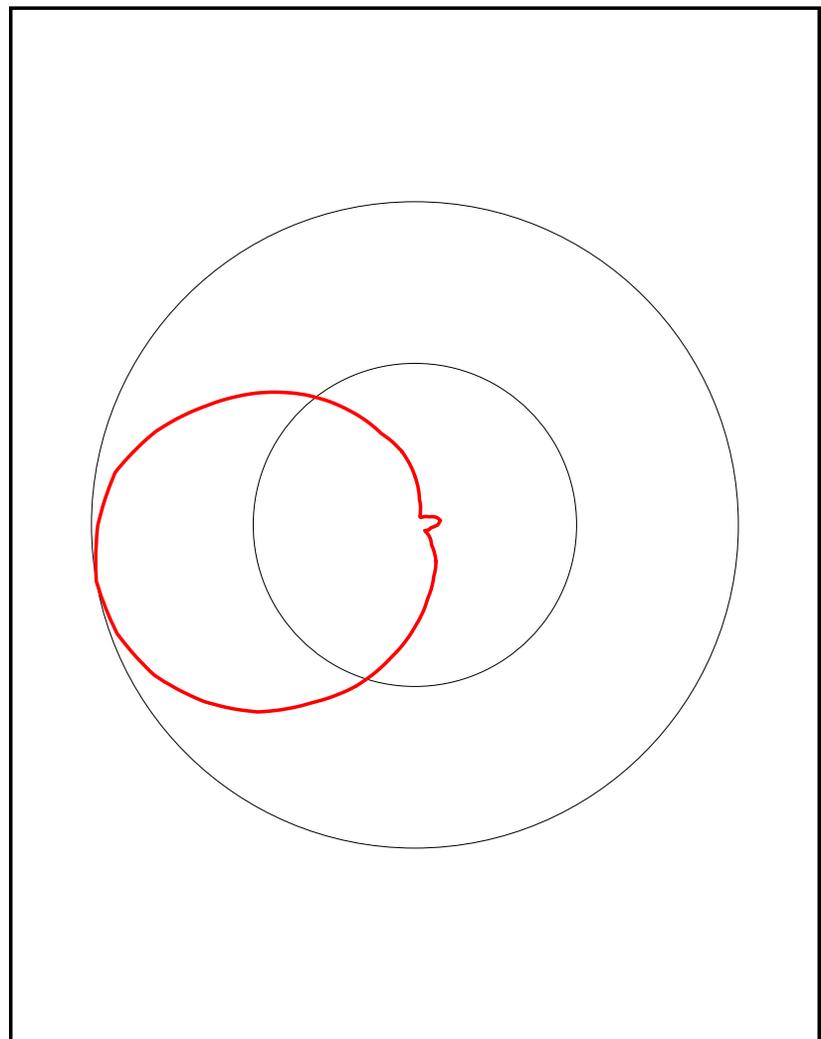
Latitude: 42-07-11.30 N
 Longitude: 072-24-39 W
 Channel: 34-
 Frequency: 592.5 MHz
 ERP: 45.00 kW
 Antenna HAAT: 225.0 m
 Antenna AMSL Height: 283.5 m
 Antenna AGL Height: 36.6 m
 Site Elevation AMSL: 246.9 m
 Horiz. Pattern: Directional



WESA-LP DIGITAL ANTENNA PATTERN

FIGURE 2

Azimuth (deg)	Effective Field
0.0	0.150
10.0	0.080
20.0	0.050
30.0	0.030 <-- MIN
40.0	0.030 <-- MIN
50.0	0.040
60.0	0.050
70.0	0.070
80.0	0.080
90.0	0.070
100.0	0.050
110.0	0.045
120.0	0.035
130.0	0.060
140.0	0.080
150.0	0.130
160.0	0.170
170.0	0.230
180.0	0.315
190.0	0.415
200.0	0.530
210.0	0.635
220.0	0.755
230.0	0.850
240.0	0.930
250.0	0.980
260.0	1.000 <-- MAX
270.0	0.980
280.0	0.940
290.0	0.850
300.0	0.740
310.0	0.635
320.0	0.525
330.0	0.410
340.0	0.300
350.0	0.230



ANTENNA MANUFACTURER: RFT
 Model: PAT-G_14BAYSFN_0.75BT

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountain

Proposed facility is within the Canadian coordination distance
Distance to border = 322.1km

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

	Proposed Station		
Channel	Call	City/State	ARN
34	WESA-LP-	SPRINGFIELD MA	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
19	WCDC-TV	ADAMS MA	84.7	LIC	BLCT	-19810105KE
20	WTXX	WATERBURY CT	83.7	LIC	BLCT	-19820428KE
26	WNGN-LP	TROY NY	124.3	APP	BPTTL	-20030513AAE
27	WUNI	WORCESTER MA	83.6	APP	BSTA	-20090218ABW
27	WUNI	WORCESTER MA	62.0	LIC	BLCT	-19991214ABC
30	WVIT	NEW BRITAIN CT	58.2	LIC	BLCT	-19791113LC
32	WTMU-LP	BOSTON MA	112.2	LIC	BLTTL	-19950414IE
33	WFSB	HARTFORD CT	50.3	LIC	BLCDDT	-20041029AIL
33	WFSB	HARTFORD CT	50.3	CP	BPCDDT	-20080619AFT
33	WMPX-LP	DENNIS MA	177.3	LIC	BLTTL	-20041202ACZ
33	WMPX-LP	DENNIS MA	177.3	CP	BDFCDTL	-20060322AAN
33	WPXG	CONCORD NH	148.2	LIC	BLCDDT	-20031014AEP
33	WPXG	CONCORD NH	148.2	APP	BPCDDT	-20080619AJF
33	W33AK	NASHUA NH	105.6	LIC	BLTTL	-19950728IB
33	WCBS-TV	NEW YORK NY	205.7	APP	BMPCDDT	-20080619AAZ
33	WCBS-TV	NEW YORK NY	201.2	CP	BPCDDT	-20080523AEI
33	WPIX	NEW YORK NY	201.2	STA	BMDSTA	-20040625ACC
34	W34DR-D	STAMFORD CT	149.9	CP	BDCCDDL	-20061016AEB
34	WCRN-LP	LEICESTER MA	42.0	LIC	BLTTL	-19960130JB
34	WNEU	MERRIMACK NH	117.3	LIC	BLCDDT	-20021028AAH
34	W18BO	PITTSBURG NH	325.9	CP	BDISDTT	-20060331AZC
34	WQAV-LP	ATLANTIC CITY NJ	352.7	LIC	BLTTL	-19970924JG
34	WPXO-LP	EAST ORANGE NJ	201.2	CP	BDFCDTL	-20060320AAW
34	WPXO-LP	EAST ORANGE NJ	201.2	LIC	BLTTL	-20040730AAO
34	WIVT	BINGHAMTON NY	291.4	CP	BPCDDT	-20080314ACR
34	WIVT	BINGHAMTON NY	291.4	LIC	BLCT	-20040113ABJ
34	960910KE	LAKE PLACID NY	271.4	APP	BPET	-19960910KE
34	W34DI	PORT JERVIS NY	205.9	LIC	BLTTL	-20070223AHK
34	WMHT	SCHENECTADY NY	142.9	LIC	BLEDT	-20040108ALV
34	WBQZ-LP	WATERTOWN NY	359.1	LIC	BLTTL	-19950807JA
34	WCAU	PHILADELPHIA PA	330.7	CP	BPCDDT	-20080620AKG
34	WYBE	PHILADELPHIA PA	330.7	LIC	BLEDT	-20030213AAD
35	WVIT	NEW BRITAIN CT	58.2	LIC	BLCDDT	-20041203AEF
35	WZMY-TV	DERRY NH	107.9	LIC	BLCDDT	-20070126ACX
35	WNYX-LP	NEW YORK NY	199.0	CP	BDFCDTL	-20060111ACR
35	WNYX-LP	NEW YORK NY	199.0	CP	BPTTL	-20070705ADS
35	WNYX-LP	NEW YORK NY	199.0	LIC	BLTTL	-20070615ACT
35	W61CE	RUTLAND VT	180.2	CP	BDISTTL	-20060105ABE
36	W54CG	MANCHESTER NH	117.2	APP	BPTTL	-20020729ABS
36	W36AX	MANCHESTER, ETC. VT	127.6	APP	BSTA	-20060310ADT
36	W36AX	MANCHESTER, ETC. VT	127.6	LIC	BLTT	-20060608AAD
38	WHCT-LP	HARTFORD CT	48.1	LIC	BLTTL	-20050822AAP
38	W38DL	ADAMS, ETC. MA	84.7	LIC	BLTT	-20030807ACU
38	WSBK-TV	BOSTON MA	100.2	LIC	BLCT	-19910619KG
38	WNGN-LP	TROY NY	124.3	LIC	BLTTL	-20070904ABG

