EXHIBIT E

ENGINEERING REPORT RE
APPLICATION FOR MODIFICATION OF
CONSTRUCTION PERMIT (BMP20000712AAH)
TO INCREASE DAYTIME POWER FOR
WLUX, ISLIP, NEW YORK
540 KHZ 0.5 KW DA-D

JULY 2001

COHEN, DIPPELL AND EVERIST, P.C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D.C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)

Sudhir K. Khanna, being duly sworn upon his oath, deposes and states:

That he is a registered professional engineer in the District of Columbia, holds the degree of Master of Science in Electrical Engineering, and is Secretary-Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio-Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

That the attached engineering report was prepared by him or under his supervision and direction; and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts, he believes them to be true.

S.K. Khanna

Sudhir K. Khanna
District of Columbia
Professional Engineer
Registration No. 8057

Subscribed and sworn to before me this 12th day of July, 2001.

Carol L. Lyon

Notary Public

My Commission Expires:

2/28/2003

Introduction

This engineering report has been prepared on behalf of Long Island Multimedia, LLC ("LIMM") in support of a minor change application to modify its outstanding construction permit (BMP20000712AAH). This minor change application proposes to increase the daytime power to 0.5 kW utilizing the authorized two tower directional array with different antenna parameters. No other changes are proposed.

WLUX is licensed to operate on 540 kHz with daytime power of 250 watts utilizing a non-directional antenna. The station also holds a CP to operate with 0.32 kW daytime utilizing a two tower directional antenna system. WLUX is also licensed for a secondary nighttime non-directional operation with 204 watts.

Applicable exhibits requested by Section III-A of FCC Form 301 are either included in this engineering report or referenced to the engineering exhibits associated with the WLUX authorization (BMP20000712AAH) for 0.320 kW, DA-D.

Transmitter Site

The existing antenna site is located at 180 Freeman Avenue, Islip, Suffolk County, New York.

The geographic coordinates (NAD-27) of the existing non-directional tower based on the antenna structure registration No. 1006778 when rounded to the nearest second are as follows:

North Latitude: 40° 45' 08"

West Longitude: 73° 12' 51"

The geographic coordinates (NAD-27) of the proposed tower based on the antenna structure registration No. 1219580 when rounded to the nearest second are as follows:

North Latitude: 40° 45' 03"

West Longitude: 73° 12' 49"

The geographic coordinates (NAD-27) of the directional array center when rounded to the nearest second are as follows:

North Latitude: 40° 45' 06"

West Longitude: 73° 12' 50"

Daytime Allocation Situation

The proposed 0.5 kW directional daytime operation of WLUX will not cause any new prohibited overlap of pertinent contours with any authorized or proposed stations operating on 540 KHz and within plus and minus three channels and where existing overlap occurs it will not be increased. The present 0.25 kW non-directional and authorized 0.32 kW directional operation of WLUX receives co-channel contour overlap from the present operation of WDMV, Pocomoke City, Maryland, which will increase slightly. The received overlap is the result of a long salt water path (Atlantic Ocean) between the coastal sites of both stations which are separated by more than 360 kilometers. Therefore, it is beleived that the WLUX proposal is in compliance of Section 73.37 of the Commission's Rules. However, if a waiver of Section 73.37 is deemed necessary for the aforementioned increase in received co-channel contour overlap, it is hereby requested.

Detailed maps portraying the contours of WLUX and all stations involved in the 540 KHz allocation situation are attached as Exhibits E-6 through E-8. As indicated in these exhibits, WLUX presently has prohibitive contour overlap with co-channel station WDMV, Pocomoke City, Maryland, and the WDMV authorization for Brinklow, Maryland. The present area of prohibitive contour overlap to the licensed and authorized facilities of WDMV is 3,695 and 84 square km, respectively. The area of prohibitive contour overlap from the proposed WLUX operation would be 3,643 and 84 square km, respectively. Therefore, the prohibitive contour overlap to the licensed and authorized operations of co-channel station WDMV from the WLUX proposed operation would be reduced or unchanged. Therefore, no increase in area of existing prohibitive contour overlap will occur as a result of this proposal.

Field strength measurements were made in connection with the WLUX daytime power increase proposal and are attached as Appendix A. The field strength measurements were made by Milford Smith, whose qualifications are a matter of record at the Federal Communications Commission. The field strength meters utilized for the measurements were Potomac Instruments Type FIM-21, SN-1014 and Type FIM-41, SN-616. The field strength meters were calibrated by Potomac Instruments on May 21,1999, and October 31, 2000, respectively. The field strength measurements are shown in tabular form and show the point number, distance in kilometers from the WLUX transmitter site, date and time and the measured field strength in mV/m. The maps showing the measurement point locations are not being submitted in accordance with the FCC streamlining processing but, are available for inspection upon request.

The inverse field utilized for analyzing the new WLUX measured radials was taken from the station's non-directional theoretical antenna efficiency of 144 mV/m/km at one kilometer.

Nighttime Situation

There is no change proposed in the authorized secondary nighttime non-directional operation of 204 watts.

Contour Data

The distances to various field intensity contours were obtained from the revised groundwave field strength versus distance Graphs 1, 1A, 2, and 2A of Section 73.184 of the Commission's Rules. Where changes in estimated ground conductivity occur, the equivalent distance method of computation was used.

The attached measured data in Appendix A, in conjunction with the previously filed measurement data, was used for computation of several contours and incorporates the new revised groundwave field strength versus distance graphs. The graphical analysis of the measured data has been provided on 8.5" x 11" graph paper for the convenience of utilizing a computerized program for plotting the data. A family of curves for the aforementioned graphs is also being provided for reference.

The values of conductivity, azimuths, and inverse distance field strengths used as a basis for coverage contours and for the prohibitive contour overlap studies with other AM stations are included on the tables attached hereto as Exhibit E-9. This detailed information in the form of computer generated tabulations also shows the basis of the ground conductivities and distance to contours shown on the FCC Figure M-3 maps. The pertinent contours of other AM stations depicted on the M-3 maps have been obtained from their respective license or pending application files, where indicated, or were computed based on their standard radiation pattern and Commission's estimated (Figure M-3) and/or measured ground conductivities.

1 V/m Contour

The WLUX site map included herein (Exhibit E-3) shows the present, authorized and proposed daytime 1 V/m contours. The estimated population within the proposed 1 V/m contours is less than 300 people based on the 1990 computerized U.S. census data.

Based on the characteristics immediately surrounding the existing site and the current 0.25 kW operation, it is believed that the proposed 0.5 kW daytime operation would not result in any significant interference problems within the proposed blanketing area. However, in case of a problem, WLUX takes full responsibility to satisfy all reasonable complaints of blanketing interference within its 1 V/m contour.[1] The remedial steps may include installation of filters, traps, or receiver replacement in accordance with Section 73.88 of the Commission's Rules.

Other Broadcast Stations

There are no AM, FM, or TV broadcast stations operating within 3 kilometers of the existing WLUX antenna location with the exception of collocated FM station WBZO, Bay Shore, New York. Station WBZO operates on Channel 276A (103.1 MHz) with 3 kW effective radiated power. Its antenna is side-mounted on the existing WLUX tower (Registration No. 1006770).

Main Studio Location

There will be no change in the location of the present main studio.

[1] WLUX will comply with the blanketing requirements in accordance with Section 73.88 and 73.318(b) and (d) of the Commission's Rules.

RF Fields

According to Table 3 in Supplement A to OET Bulletin 65 (Edition 97-01), the Maximum Permissible Exposure (MPE) for specified electric and magnetic fields ("worst-case") would not exceed at more than approximately 2 meters from the base of the tower for the proposed 0.5 kW daytime operation assuming 0.5 kW power into each tower. Therefore, the distance of 2 meters overstates the minimum distance at which the aforementioned field levels may be exceeded for each individual tower.

Presently, the WLUX transmitting site is completely fenced around the base of the tower. The security fencing and locked gate at the base of the existing tower prevents access to those areas. The new self supporting will also have security fencing and locked gate at the tower base. WLUX also has appropriate warning signs describing the nature of the potential hazard. Additionally, LIMM currently has a program of assuring compliance with the Commission's guidelines concerning exposure to RF fields. Upon grant and construction of the WLUX power increase proposal, further compliance will be accomplished after conducting RF field measurements at the site. Access to any areas found to exceed the Commission's guidelines for MPE near the towers will be restricted by installing additional fencing. Such a fence around the towers would effectively block and restrict the access and unintentional use of the space near the towers.

With respect to work performed on the tower structure or inside the fenced area, station WLUX will modify its existing written procedures including reducing or terminating transmitter power to ensure that workers are not exposed to levels of radio frequency field in excess of the Commission's guidelines.

An environmental assessment (EA) is excluded under Section 1.1307 of the FCC Rules and Regulations since there is no change proposed in the currently authorized site or antenna configuration. Additionally both tower have FCC tower registration numbers.

For the reasons stated above, the WLUX proposal does not involve any action specified in Section 1.1307(a) and (b) of the Commission's Rules; therefore, under Section 1.1306, the WLUX proposal is excluded from environmental processing.

SECTION III-A AM Engineering

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Frequency: 540 kHz

2. Class: ☐ A ☒ B ☐ C ☐ D

3. Hours of Operation: ☐ Unlimited ☐ Limited ☒ Daytime ☐ Share Time ☐ Specified Hours: ____

4. **Daytime Operation:** ☒ Yes ☐ No

   a. Power: 0.5 kW

   b. Antenna Location Coordinates: (NAD 27) (array center)

   40 ° 45 ' 06 " ☒ N ☐ S Latitude
   73 ° 12 ' 50 " ☐ E ☒ W Longitude

   c. **Nondirectional:** ☐ Yes ☒ No

   If "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

   Exhibit No.

   Theoretical RMS: _____ mV/m at 1 km

Tower	
Overall height above ground (include obstruction lighting)	
Antenna structure registration	_____ Number ☐ Notification filed with FAA ☐ Not applicable
Height of radiator above base insulator, or above base, if grounded	
Electrical height of radiator (degrees)	
Top-Loaded/Sectionalized apparent height	
A	
B	
C	
D	

TECH BOX - DAYTIME OPERATION

d. **Directional:** [X] Yes [ ] No

If "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

Exhibit No. E

Theoretical RMS: 227.55 mV/m at 1 km

Standard RMS: 239.16 mV/m at 1 km

Towers	1	2	3	4
Overall height above ground (include obstruction lighting)	98.7 M	152.4 M		
Antenna structure registration	1006778 Number [ ] Notification filed with FAA [ ] Not applicable	1219580 Number [ ] Notification filed with FAA [ ] Not applicable	Number [ ] Notification filed with FAA [ ] Not applicable	Number [ ] Notification filed with FAA [ ] Not applicable
Height of radiator above base insulator, or above base, if grounded	96.1 (M)	148.3 (M)		
Electrical height of radiator (degrees)	62.3	96.2		
Field ratio	1.0	1.863		
Phase	0	147		
Spacing	0	90		
Tower orientation	0	165		
Tower reference switch				
Top-Loaded/Sectionalized apparent height				
A				
B				
C				
D				

Augmented: [ ] Yes [X] No

If "Yes," complete the following:

Augmented RMS: _____ mV/m at 1 km

Azimuth	Span	Augmentation radiation

TECH BOX - NIGHTTIME OPERATION

5. **Nighttime Operation:** (no change) [X] Yes [ ] No

a. Power: 0.204 kW

b. Antenna Location Coordinates: (NAD 27)

40 ° 45 ' 08 " [X] N [ ] S Latitude
73 ° 12 ' 51 " [ ] E [X] W Longitude

c. **Nondirectional:** [X] Yes [ ] No

If "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

Exhibit No.

Theoretical RMS: 288 mV/m at 1 km

Tower	
Overall height above ground (include obstruction lighting)	98.7 (M)
Antenna structure registration	_____ Number [X] Notification filed with FAA [ ] Not applicable
Height of radiator above base insulator, or above base, if grounded	96.1 (M)
Electrical height of radiator (degrees)	62.3
Top-Loaded/Sectionalized apparent height	
A	
B	
C	
D	

TECH BOX - NIGHTTIME OPERATION

d. **Directional:** ☐ Yes ☒ No

If "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

Exhibit No.

Theoretical RMS: _____ mV/m at 1 km

Standard RMS: _____ mV/m at 1 km

Towers	1	2	3	4
Overall height above ground (include obstruction lighting)				
Antenna structure registration	_____ Number ☐ Notification filed with FAA ☐ Not applicable	_____ Number ☐ Notification filed with FAA ☐ Not applicable	_____ Number ☐ Notification filed with FAA ☐ Not applicable	_____ Number ☐ Notification filed with FAA ☐ Not applicable
Height of radiator above base insulator, or above base, if grounded				
Electrical height of radiator (degrees)				
Field ratio				
Phase				
Spacing				
Tower orientation				
Tower reference switch				
Top-Loaded/Sectionalized apparent height				
A				
B				
C				
D				

Augmented: ☐ Yes ☐ No

If "Yes," complete the following:

Augmented RMS: _____ mV/m at 1 km

Azimuth	Span	Augmentation radiation

TECH BOX - CRITICAL HOURS OPERATION

6. **Critical Hours Operation:** ☐ Yes ☒ No

a. Power: _____ kW

b. Antenna Location Coordinates: (NAD 27)

_____ o _____ ' _____ " ☐ N ☐ S Latitude

_____ o _____ ' _____ " ☐ E ☐ W Longitude

c. **Nondirectional:** ☐ Yes ☐ No

If "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

Exhibit No.

Theoretical RMS: _____ mV/m at 1 km

Tower	
Overall height above ground (include obstruction lighting)	
Antenna structure registration	_____ Number ☐ Notification filed with FAA ☐ Not applicable
Height of radiator above base insulator, or above base, if grounded	
Electrical height of radiator (degrees)	
Top-Loaded/Sectionalized apparent height	
A	
B	
C	
D	

TECH BOX - CRITICAL HOURS OPERATION

d. **Directional:** ☐ Yes ☒ No

If "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

Exhibit No.

Theoretical RMS: _____ mV/m at 1 km

Standard RMS: _____ mV/m at 1 km

Towers	1	2	3	4
Overall height above ground (include obstruction lighting)				
Antenna structure registration	_____ Number ☐ Notification filed with FAA ☐ Not applicable	_____ Number ☐ Notification filed with FAA ☐ Not applicable	_____ Number ☐ Notification filed with FAA ☐ Not applicable	_____ Number ☐ Notification filed with FAA ☐ Not applicable
Height of radiator above base insulator, or above base, if grounded				
Electrical height of radiator (degrees)				
Field ratio				
Phase				
Spacing				
Tower orientation				
Tower reference switch				
Top-Loaded/Sectionalized apparent height				
A				
B				
C				
D				

Augmented: ☐ Yes ☐ No

If "Yes," complete the following:

Augmented RMS: _____ mV/m at 1 km

Azimuth	Span	Augmentation radiation

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

CERTIFICATION

7. **Broadcast Facility.** The proposed facility complies with the engineering standards and assignment requirements of 47 C.F.R. Sections 73.24(e), 73.24(g), 73.33, 73.45, 73.150, 73.152, 73.160, 73.182(a)-(i), 73.186, 73.189, 73.1650. **Exhibit Required.**

[X] Yes [ ] No — Exhibit No. N/A — See Explanation in Exhibit No. E

8. **Community Coverage.** The proposed facility complies with community coverage requirements of 47 C.F.R. Section 73.24(i).

[X] Yes [ ] No — See Explanation in Exhibit No. E, E-6

9. **Main Studio Location.** The proposed main studio location complies with requirements of 47 C.F.R. Section 73.1125.

[X] Yes [ ] No — See Explanation in Exhibit No. E

10. **Interference.** The proposed facility complies with all of the following applicable rule sections. Check all those that apply. An exhibit is required for each applicable section.

[X] Yes [ ] No — See Explanation in Exhibit No. E,E-7/E-9

Groundwave.

a. [X] 47 C.F.R. Section 73.37 — Exhibit No. E

Skywave.

b. [ ] 47 C.F.R. Section 73.182. — Exhibit No.

Critical Hours.

c. [ ] 47 C.F.R. Section 73.187. — Exhibit No.

11. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (*i.e.*, the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an **Exhibit is required.**

[X] Yes [ ] No — See Explanation in Exhibit No. E

By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

PREPARER'S CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name	Relationship to Applicant (e.g., Consulting Engineer)
S. K. Khanna	Consulting Engineer
Signature S.K Khanna.	Date 7-12-2001
Mailing Address: Cohen, Dippell and Everist, P.C., 1300 L Street, N.W., Suite 1100	
City: Washington	State or Country (if foreign address): D.C. / ZIP Code: 20005
Telephone Number (include area code): (202) 898-0111	E-Mail Address (if available): cde@bellatlantic.net

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 PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).