

**EXHIBIT 40**  
**ENGINEERING STATEMENT**  
**PREPARED IN SUPPORT OF APPLICATION**  
**FOR MINOR MODIFICATION OF CONSTRUCTION PERMIT**  
**DTV STATION WLNY FCC ID 73206**  
**CHANNEL 57 425 kW MAX DA @ 194 m HAAT**  
**RIVERHEAD, NEW YORK**  
**NOVEMBER 2005**

**SUMMARY**

The following engineering statement has been prepared on behalf of WLNY-TV, Inc., licensee of WLNY Channel 55 analog and permittee of WLNY Channel 57 DT. The purpose of this application is to specify a minor modification to the WLNY authorized Channel 57 DTV facilities. All required technical data is found in this statement and on FCC Form 301, Section III-D.

The engineering specifications set forth in the original application for the construction permit for the maximized facilities for WLNY-DT was based on the assumption that WLNY would conduct dual operations during the DTV transition, i.e., analog operation on analog Channel 55 and DTV operation on DTV Channel 57. Because the analog Channel 55 antenna is mounted on the top of the tower structure, the application specified that the digital Channel 57 antenna would be side mounted on the tower structure under the analog Channel 55 antenna, and the maximized construction permit issued by the Commission reflects this configuration. However, on September 21, 2005, the Commission authorized WLNY to cease analog broadcasting on Channel 55, to surrender this analog channel prior to the end of the DTV transition period and thereafter to operate WLNY-DT as a single channel, digital-only TV station on DTV Channel 57. Because of this development, WLNY now proposes to locate the DTV Channel 57 antenna on the top of the tower structure at the location which will be vacated by the analog Channel 55 antenna which, in turn, will permit the station to enhance its digital broadcasting transmission. The minor modification of

facilities requested in this application reflects the increased height of the DTV antenna and other technical specifications associated therewith.

The minor modification of facilities requested herein will not increase WLNY-DT's service area in any direction beyond the area resulting from the station's parameters as defined in the station's outstanding construction permit. Therefore, the modification application is not subject to the freeze imposed on the filing of applications in the Channels 52-59 band.

It should be noted that the proposal advanced in the modification application is in furtherance of the Commission's band clearing decision released on September 1, 2005 authorizing WLNY-DT to operate as a DTV-only station. In its decision, the Commission cited WLNY's commitment to construct maximized DTV facilities during the transition. It is requested that the Commission expeditiously process and grant the modification of construction permit so that WLNY can proceed with the equipment purchases and the other steps necessary to fulfill its commitment.

#### **PROPOSED ANTENNA SYSTEM**

WLNY proposes to remove the existing analog Channel 55 top mounted antenna and replace it with a Jampro JSL-14-TM-C-5 slot antenna. The current top mounted antenna and tower height equal 195.6 meters AGL as specified in registration number 1006717. The proposed antenna substitution will not increase the height of the structure.

Figure 1, attached, includes the plotted horizontal plane pattern and tabulation for the proposed Jampro, horizontally polarized, directional antenna system. The antenna will incorporate 1.25° of electrical beam tilt and a smoothed elevation pattern. The plotted and tabulated elevation pattern data are found on Figure 2, attached.

#### **MINOR CHANGE CALCULATION**

The total area within the 42.5 and 41 dBu F(50,90) contours has been calculated for the Channel 57 CP Mod facility as authorized in BMPCDT-20000501AAL. The area within these contours has also been calculated for the proposed CP Mod facility specified herein. The results are tabulated below:

	AREA IN SQUARE KILOMETERS	
	<u>BMPCDT-20000501AAL</u>	<u>11-2005 CP MOD</u>
42.5 dBu	14,080.3	14,008.1
41.0 dBu	14,819.4	14,746.5

An approximate 0.5% reduction in area, using the same Andrew type C5 radiation pattern for both facilities, the fact that there is no change in site location and the fact that the proposed service contour is wholly within the service contour authorized in the existing construction permit result in this application being a minor change in facilities. A map depicting the currently authorized and proposed contours is not supplied as the contours are not distinguishable from each other.

### **COORDINATION**

The WLNY transmitter site is 441 km from the nearest point on the Canadian border and thus outside the 400 km U.S. - Canadian border zone notification area.

The closest AM site is WLIM 1580 kHz, Patchogue, New York, 12.98 km distant.

### **PREDICTED SERVICE CONTOURS**

Per Rule Section 73.622(e), a map is attached, Figure 3, which depicts the 41 dBu F(50,90) contour. The 48 dBu F(50,90) principal community contour is also shown on Figure 3. The 48 dBu contour covers 100% of the Community of Riverhead, New York.

### **RF RADIATION ANALYSIS**

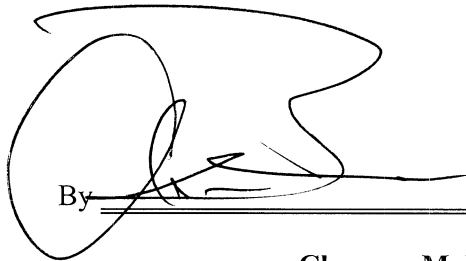
The proposed antenna system consists of a Jampro JSL-14, horizontally polarized, fourteen slot antenna, with a radiation center 214.3 meters above ground. Formula 10 of OET Bulletin No. 65, Edition 97-01, page 22, has been used to calculate power density. A value F of 0.169 has been used to calculate the power density 2 meters above ground. The maximum power density is 8.9952 uW/cm squared for an ERP of 425,000 watts. This value is 1.85% of the allowable 487.3 uW/cm squared power density for uncontrolled environments for TV Channel 57 and, thus, is believed to be categorically excluded from environmental processing.

The tower base is fenced to prevent unauthorized access.

The applicant will reduce, or cease, transmission as required to meet FCC OET-65 guidelines for worker exposure.

**CONCLUSION**

The foregoing was prepared on behalf of WLNY-TV, Inc. by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.

By  \_\_\_\_\_

**Clarence M. Beverage**  
for Communications Technologies, Inc.  
Marlton, New Jersey

**SUBSCRIBED AND SWORN TO** before me,

this 30<sup>th</sup> day of November, 2005,

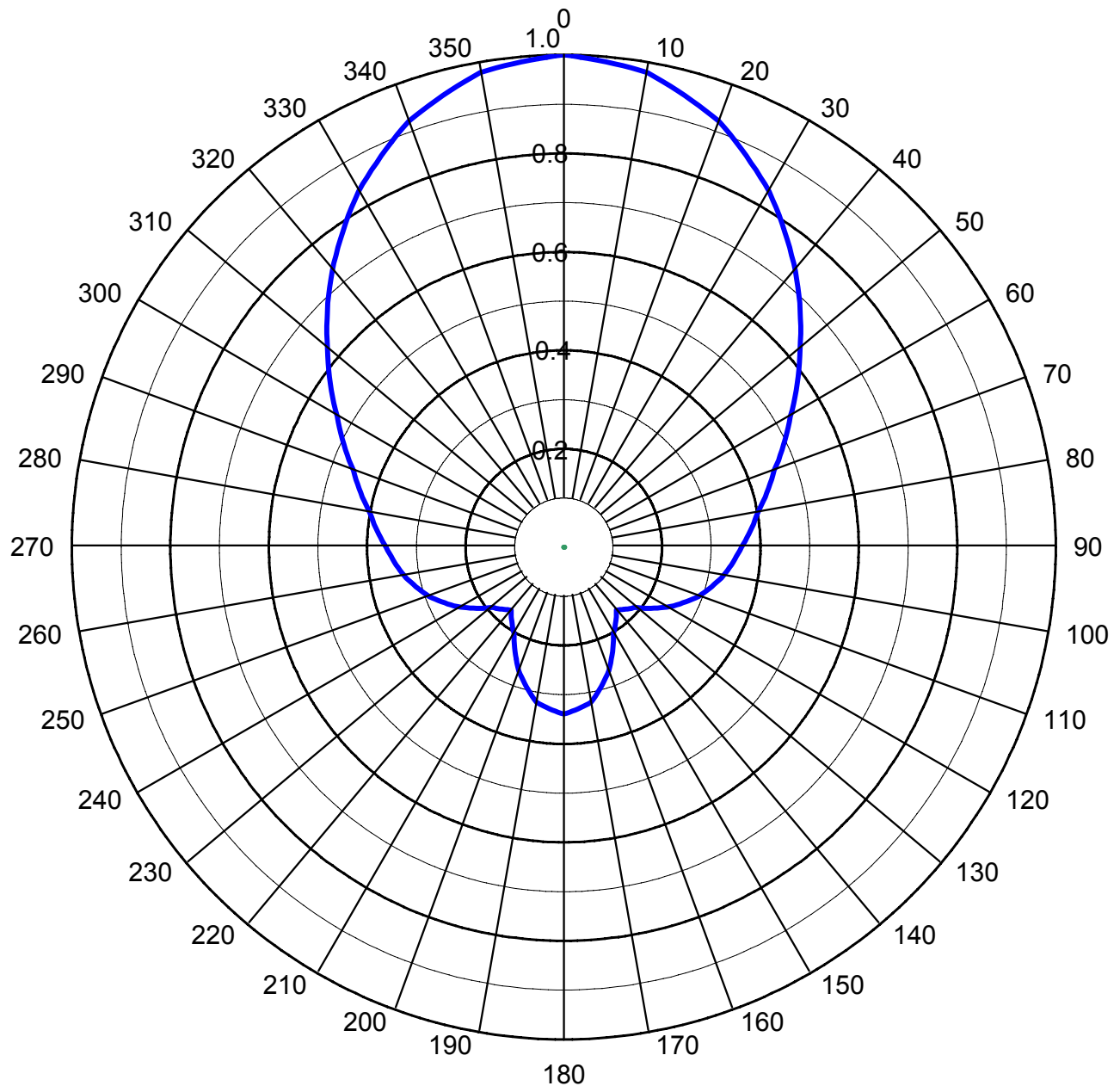
Esther G. Sperbeck, NOTARY PUBLIC

**ESTHER G. SPERBECK**  
NOTARY PUBLIC OF NEW JERSEY  
MY COMMISSION EXPIRES OCT. 15, 2007



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ROTATE 270 DEGREES CLOCKWISE



## AZIMUTH PATTERN INFORMATION

Model: Prostar Slot Antenna

Pattern: Medium Cardioid "C-5"

Notes: UHF Slot Antenna

Client: WLNY-DT 57



ROTATE 270 DEGREES CLOCKWISE

# **MEDIUM CARDIOID UHF SLOT ANTENNA ANTENNA PATTERN TABULATION**

**0 DEGREES = TRUE NORTH**

<u>AZIMUTH</u>	<u>FIELD</u>	<u>dB</u>
0	1.00	0.000
10	0.98	-0.184
20	0.92	-0.715
30	0.83	-1.577
40	0.73	-2.710
50	0.63	-4.055
60	0.53	-5.482
70	0.46	-6.840
80	0.40	-7.959
90	0.36	-8.850
100	0.33	-9.630
110	0.29	-10.692
120	0.24	-12.288
130	0.19	-14.425
140	0.17	-15.598
150	0.20	-13.893
160	0.27	-11.470
170	0.32	-9.897
180	0.34	-9.396
190	0.32	-9.897
200	0.27	-11.470
210	0.20	-13.893
220	0.17	-15.598
230	0.19	-14.425
240	0.24	-12.288
250	0.29	-10.692
260	0.33	-9.630
270	0.36	-8.850
280	0.40	-7.959
290	0.46	-6.840
300	0.53	-5.482
310	0.63	-4.055
320	0.73	-2.710
330	0.83	-1.577
340	0.92	-0.715
350	0.98	-0.184

## **AZIMUTH PATTERN INFORMATION**

Model: Prostar Slot Antenna

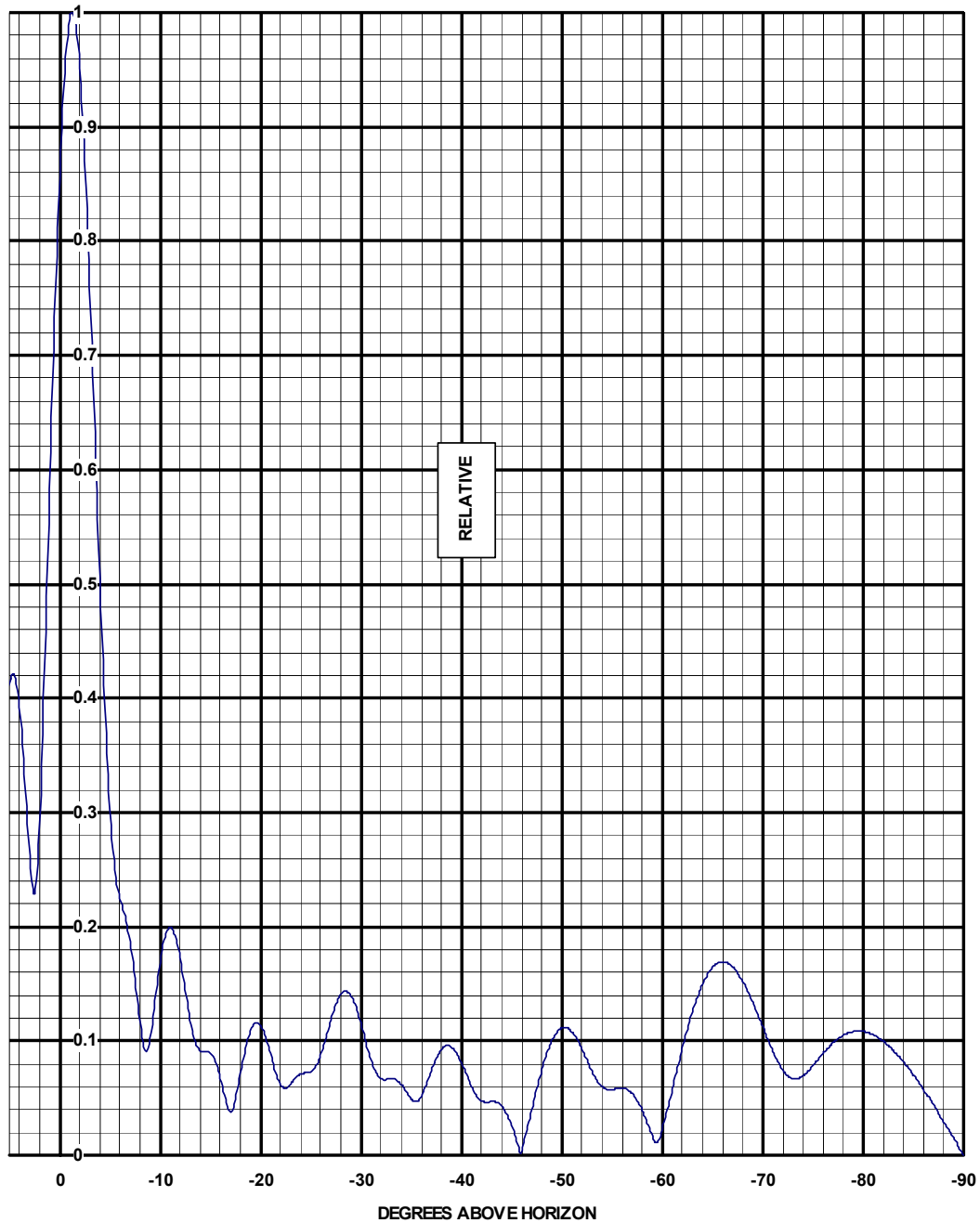
Pattern: Medium Cardioid "C-5"

Notes: UHF Slot Antenna

Client WLNY-DT 57



## Elevation Pattern



### ELEVATION PATTERN

**Customer: WLNY TV**

**Frequency: CH 57**

**With Fill Smoothing / 1.25° tilt**

**March 17, 2005**

**Model: JSL-14**

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## Elevation Pattern

### ELEVATION PATTERN TABULATION

#### RELATIVE FIELD VS ELEVATION ANGLE

ELEVATION ANGLE	RELATIVE FIELD	ELEVATION ANGLE	RELATIVE FIELD	ELEVATION ANGLE	RELATIVE FIELD
10.000	0.103	-26.000	0.088	-61.000	0.058
9.000	0.088	-27.000	0.118	-62.000	0.094
8.000	0.021	-28.000	0.141	-63.000	0.125
7.000	0.152	-29.000	0.139	-64.000	0.150
6.000	0.313	-30.000	0.115	-65.000	0.165
5.000	0.413	-31.000	0.083	-66.000	0.169
4.000	0.392	-32.000	0.067	-67.000	0.165
3.000	0.263	-33.000	0.067	-68.000	0.152
2.000	0.292	-34.000	0.062	-69.000	0.134
1.000	0.584	-35.000	0.049	-70.000	0.112
0.000	0.858	-36.000	0.052	-71.000	0.091
-1.000	0.994	-37.000	0.074	-72.000	0.074
-2.000	0.951	-38.000	0.092	-73.000	0.067
-3.000	0.760	-39.000	0.095	-74.000	0.069
-4.000	0.505	-40.000	0.081	-75.000	0.078
-5.000	0.303	-41.000	0.060	-76.000	0.089
-6.000	0.225	-42.000	0.048	-77.000	0.098
-7.000	0.187	-43.000	0.047	-78.000	0.105
-8.000	0.117	-44.000	0.043	-79.000	0.108
-9.000	0.102	-45.000	0.026	-80.000	0.108
-10.000	0.169	-46.000	0.004	-81.000	0.105
-11.000	0.199	-47.000	0.040	-82.000	0.100
-12.000	0.172	-48.000	0.075	-83.000	0.092
-13.000	0.118	-49.000	0.100	-84.000	0.082
-14.000	0.091	-50.000	0.112	-85.000	0.070
-15.000	0.089	-51.000	0.108	-86.000	0.058
-16.000	0.067	-52.000	0.093	-87.000	0.044
-17.000	0.038	-53.000	0.074	-88.000	0.030
-18.000	0.072	-54.000	0.060	-89.000	0.015
-19.000	0.109	-55.000	0.057	-90.000	0.000
-20.000	0.114	-56.000	0.059		
-21.000	0.089	-57.000	0.054		
-22.000	0.062	-58.000	0.039		
-23.000	0.062	-59.000	0.017		
-24.000	0.071	-60.000	0.023		
-25.000	0.073				

### ELEVATION PATTERN

**Customer: WLNY TV**

**Frequency: CH 57**

**With Fill Smoothing / 1.25° tilt**

**March 17, 2005**

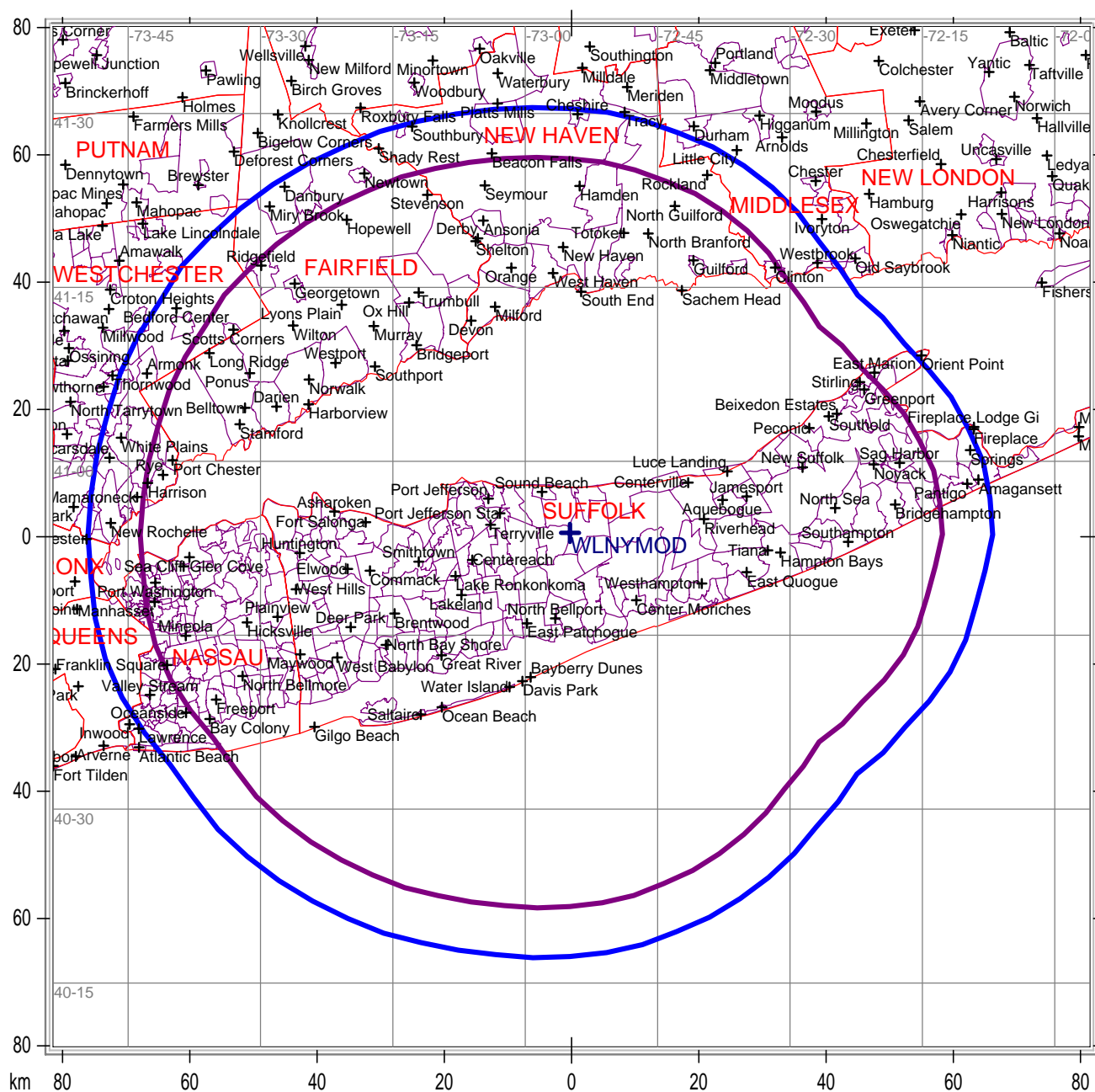
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## WLNY CH 57 DT 425 kW MAX DA &amp; 194 M HAAT RIVERHEAD, NEW YORK



Communications Technologies, Inc. Marlton, New Jersey

County Borders    City Borders    Lat/Lon Grid

Map Scale: 1:1000000    1 cm = 10.00 km    V/H Size: 160.30 x 162.99 km

Figure 3