

CONSOLIDATED ENGINEERING STATEMENT
PREPARED IN SUPPORT OF APPLICATION
FOR CONSTRUCTION PERMIT
RADIO VISION CRISTIANA MANAGEMENT
10 kW DA-2 U 1330 kHz FAC. ID. No. 54874
NEW YORK, NEW YORK

OCTOBER 2013

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SUMMARY

The following consolidated engineering statement has been prepared in support of an Application for Construction Permit by **RADIO VISION CRISTIANA MANAGEMENT**, which proposes to construct new, full-time, standard broadcast facilities for WWRV(AM), 1330 kHz at New York, New York. FCC ID No. 54874. The proposed site, and associated facilities, have been selected and designed to improve day and night community of license coverage deficiencies associated with the licensed facility and reduce grandfathered caused interference to other stations during both daytime and nighttime hours. This application is complete with the Forms, Exhibits and Figures found in the Table of Contents and is believed to comply with all applicable FCC Rules, Regulations and Policies unless stated herein. The applicant proposes diplexed operation with WZRC(AM), 1460 kHz, New York, New York.

FCC FORM 301, SECTION III-A

FCC Form 301, Section III-A has been completed. Questions requiring a narrative response are addressed below:

Questions 4d, 5d, 6d	<p>The four tower array employs existing towers in excess of 200' in height and they are registered.</p> <p>Array physical configuration data appears on <u>Exhibit I</u>. Array parameters for daytime are found in <u>Exhibit II</u> and <u>Figure 11</u>. Array parameters for the night antenna system are found in <u>Exhibit III</u> and <u>Figure 12</u>. Critical hours operation is not proposed.</p>
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No clear channel facilities are located sufficiently close that detailed critical hours calculations are required for the power level proposed.

Section 73.24(g) compliance is achieved due to the relatively rural nature of the site. Population in the proposed 1 V/m daytime contour is 3,179 persons which is 0.074% of the population in the 25 mV/m contour which envelops 4,309,904 persons. Population in the proposed 1 V/m night contour is 3,435 persons which is 0.075% of the population in the 25 mV/m contour which envelopes 4,554,213 persons. The applicant pledges to comply fully with *Rule Section 73.88*.

Question 8

Figure 6 depicts the licensed and proposed daytime 5 mV/m contour. The proposed and licensed 5 mV/m contours have been analyzed for coverage to each Borough as follows:

	Proposed		Licensed	
	Population	Area Sq. km	Population	Area Sq. km
Bronx	1,269,612	112.0	1,380,651	125.3
Manhattan	1,583,953	86.6	1,583,953	86.6
Kings	2,447,328	201.8	1,868,389	129.1
Queens	2,112,259	280.3	1,950,759	222.0
Richmond	192,670	56.2	113,636	30.3
Total	7,605,822	736.9	6,897,388	593.3

Based on 2010 Census data the proposed facility will place a 5 mV/m contour over an additional 708,434 persons in an area of 143.6 square kilometers.

Figure 8 depicts the licensed and proposed nighttime 3.5 mV/m NIF contours. The proposed and licensed 3.5 mV/m contours have been analyzed for coverage to each Borough as follows:

	Proposed		Licensed	
	Population	Area Sq. km	Population	Area Sq. km
Bronx	1,184,239	102.9	1,380,651	125.3
Manhattan	1,578,590	86.0	1,583,953	86.6
Kings	2,496,008	228.1	1,904,565	132.7
Queens	2,225,354	327.2	1,959,759	222.9
Richmond	242,831	64.9	98,418	26.1
Total	7,727,022	809.1	6,927,346	593.6

Based on 2010 Census the proposed facility will place a 3.5 mV/m NIF contour over an additional 799,676 persons in an area of 215.5 square kilometers as compared to the licensed facility.

The 1330 kHz 50% RSS night limit computation is found on Exhibit IV.

Question 10(a)

Figures 1 – 4 depict the proposed daytime allocation. WWRV is involved in grandfathered, caused, daytime overlap with three stations and enters the 50% RSS night limit of two stations. This is discussed again later in this statement. The overlap values are as follows:

Co-Channel Allocation – Received Land Area Overlap

WEBO 0.025 mV/m overlap to License WWRV 0.5 mV/m: 7,159 persons in 48.7 sq. km

WEBO 0.025 mV/m overlap to Proposed WWRV 0.5 mV/m: no overlap

Decrease in received overlap: 7,159 persons in 48.7 sq. km

WJSS 0.025 mV/m overlap to License WWRV 0.5 mV/m: 108,739 persons in 221.1 sq. km

WJSS 0.025 mV/m overlap to Proposed WWRV 0.5 mV/m:

Monmouth County: 122,549 persons in 227.2 sq. km

Middlesex County: 51,030 persons in 70.3 sq. km

Somerset County: 24,586 persons in 83.6 sq. km

Increase in received overlap: 75,616 persons in 160.0 sq. km

Co-Channel Allocation – Caused Land Area Overlap

WWRV Licensed facility: None

WWRV Proposed facility: None

1st Adj. Channel Allocation – Received Land Area Overlap

WMID 0.25 mV/m overlap to License WWRV 0.5 mV/m: 6,787 persons in 108.3 sq. km

WMID 0.25 mV/m overlap to proposed WWRV 0.5 mV/m: 2,492 persons in 122.5 sq. km

Decrease in received overlap: 4,295 persons in -14.2 sq. km

WALL 0.25 mV/m overlap to License WWRV 0.5 mV/m: 165,654 persons in 734.5 sq. km

WALL 0.25 mV/m overlap to proposed WWRV 0.5 mV/m: 134,657 persons in 315.4 sq. km

Decrease in received overlap: 30,997 persons in 419.1 sq. km

WYBC 0.25 mV/m overlap to License WWRV 0.5 mV/m:

Nassau County: 41,018 persons in 96.6 sq. km

Suffolk County: 540,189 persons in 695.2 sq. km

WYBC 0.25 mV/m overlap to Proposed WWRV 0.5 mV/m:

Nassau County: 41,018 persons in 96.6 sq. km

Suffolk County: 321,089 persons in 404.5 sq. km

Decrease in received overlap: 219,100 persons in 290.7 sq. km

WATR 0.25 mV/m overlap to License WWRV 0.5 mV/m:

Suffolk County: 14,283 persons in 59.6 sq. km

WATR 0.25 mV/m overlap to Proposed WWRV 0.5 mV/m:

Suffolk County: 3,886 persons in 9.3 sq. km

Decrease in received overlap: 10,397 persons in 50.3 sq. km

WNBH 0.25 mV/m overlap to License WWRV 0.5 mV/m:
Suffolk County: 6,268 persons in 53.0 sq. km

WNBH 0.25 mV/m overlap to Proposed WWRV 0.5 mV/m:
Suffolk County: None
Decrease in received overlap: 6,268 persons in 53.0 sq. km

1st Adj. Channel Allocation – Caused Land Area Overlap

WWRV License 0.25 mV/m overlap to WALL 0.5 mV/m: 178,214 persons in 1,101.3 sq. km
WWRV proposed 0.25 mV/m overlap to WALL 0.5 mV/m: 72,082 persons in 374.8 sq. km
Decrease in received overlap: 106,132 persons in 726.5 sq. km

The following overlap areas are impacted by a sea water path.

WWRV License 0.25 mV/m overlap to WYBC 0.5 mV/m: 494,245 persons in 3,771.0 sq. km
WWRV proposed 0.25 mV/m overlap to WYBC 0.5 mV/m: 358,933 persons in 3417.4 sq. km

WWRV License 0.25 mV/m overlap to WARL 0.5 mV/m: None
WWRV proposed 0.25 mV/m overlap to WARL 0.5 mV/m: None

WWRV License 0.25 mV/m overlap to WNBH 0.5 mV/m: 4,012 persons in 4,498.1 sq. km
WWRV proposed 0.25 mV/m overlap to WNBH 0.5 mV/m: 37,762 persons in 6,534.4 sq. km

Question 10(b) Exhibit IV is a tabulation of RSS calculations for all critical nighttime stations studied demonstrating that the proposed facility does not enter the RSS of any currently authorized facility in an impermissible manner except as discussed below. RSS limitations to and from Class D stations were not considered due to their secondary nature. The licensed WWRV facility enters the 50% RSS night limit for co-channel stations WRCA and WJSS. A waiver of the ratcheting clause with respect to WRCA is respectfully requested, as discussed with Media Bureau staff, as compliance would require a reduction in nighttime interference free signal over the city of license. Ratchet rule compliance with WJSS is achieved.

Based on prior coordination with FCC International Bureau staff the following Class A stations must be considered in the nighttime allocation:

FCC ID 103899 4VJD Class A Sarthes, HA 1330 kHz

FCC ID 103907 ZP4 Class A Chaco 1, PA 1330 kHz

The Final Acts of the Regional Administrative MF Broadcasting Conference (Region 2), Rio De Janeiro, 1981 has been used to determine the required level of protection. 4VJD is located in noise zone 2 and based on Table IV of that document the protected contour is the 1.25 mV/m 50% skywave contour. The allocation map Figure 14 depicts the 4VJD 0.5 mV/m 50% and the WWRV 0.0625 mV/m 50% interfering skywave contours. The 4VJD 1.25 mV/m 50% skywave contour does not exist due to the low power of that station. The ZP4 transmitter site is located 7,531.25 kilometers from the WWRV site in noise zone 1 and its 0.5 mV/m 50% skywave contour is so far south that it does not appear on the map surface. Based on this analysis no interference to ZP4 is associated with the proposed facility.

Figure 15 is an expanded scale mapping of Figure 14. Since 4VJD is located in noise zone 2 and the protected night skywave contour is 1.25 mV/m the associated WWRV 50% Region II interfering skywave contour is 0.0625 mV/m as stated above. It may be seen from Figure 15 that the WWRV 0.0625 mV/m 50% skywave contour only skirts the northern boundary of the coast of Haiti. Since 4VJD does not have a night skywave contour the most generous protection for 4VJD is the 0.25 mV/m ground wave contour. There is no overlap between the WWRV

proposed nighttime interfering skywave signal and the 4VJD 0.25 mV/m ground wave contour. Based on this analysis no interference to 4VJD is associated with the proposed facility. It is noted that an extensive internet search produced no evidence of an operating station on 1330 kHz in Haiti at this time.

Question 11

Supplement A, Edition 97-01 to OET Bulletin No. 65, has been referenced concerning appropriate fencing distances. The total combined power of WZRC and WWRV is 15 kilowatts distributed between four towers. At this time it is believed that fencing which keeps the public 2.0 meters from any tower is sufficient but compliance with OET-65 guidelines will be determined by measurements once the facility is completed. It is noted that the portion of the site accessible by land is secured within a perimeter fence. Power will be reduced or transmission ceased when workers are on or near the towers.

MULTIPLE OWNERSHIP

RADIO VISION CRISTIANA MANAGEMENT has no other AM or FM media interests in the New York, New York Arbitron market other than WRVP, 1310 kHz, FCC ID 70273, Mount Kisco, New York. Ownership of the existing two facilities is believed to comply fully with the Commission's multiple ownership Rules, section 73.3555 and the proposed facility modification does not impact the number of owned stations in the market. Further, as non-commercial facilities no multiple ownership restrictions are believed to exist.

PUBLIC INTEREST SHOWING

Grant of the facilities proposed herein would result in the following public interest benefits:

Increase in population served

- During daytime hours the proposed facility will serve an additional 708,434 persons in an area of 143.6 square kilometers in the city of license with a signal of 5 mV/m or greater.
- During nighttime hours the proposed facility will serve an additional 799,676 persons in an area of 215.5 square kilometers in the city of license within the NIF contour.

Reduction in daytime received interference

- A reduction in received co and first adjacent channel received interference to 202,600 persons in an area of 687.6 square kilometers within the 0.5 mV/m contour.

Reduction in daytime caused interference

- A reduction in caused first adjacent channel interference to 106,132 persons in an area of 726.5 square kilometers within the WALL 1340 kHz 0.5 mV/m contour.
- A reduction in caused first adjacent channel interference to 135,132 persons in an area of 353.6 square kilometers within the WYBC 1340 kHz 0.5 mV/m contour.

CONTOUR OVERLAP – OVER WATER PATHS

The purpose of this section is to address both caused and received overlap and to request a waiver of *Section 73.37(a)* to the extent necessary where the overlap is associated with long, sea water, paths as the Media Bureau has waived overlap in similar cases and in the same geographic area in the past.

73.37 WAIVER HISTORY – SEA WATER PATHS

The Commission has waived contour overlap otherwise prohibited by *Section 73.37(a)* of the Rules when the overlap is the result of a sea water path. Some of these cases are cited below:

Tidewater Broadcasting Co., Inc., FCC 2d 364 [6 PR 2d 730] (1966). Here, because the Commission found that the prohibited overlap was mainly over a large body of water, existing primarily because of the high conductivity of sea water, a waiver was found to be warranted.¹

Generation II Radio San Diego, Inc., 62 FCC 2d 691 [38 RR 2d 741] (1976). A waiver was granted on similar grounds. In Generation II, no prohibited overlap existed over the Continental United States and the overlap which did occur was over small coastal islands. Because of the fact that the resultant overlap was again caused by sea water between stations which were clearly not competing for audience, or advertising, a waiver was also granted. Thus, the Commission has found a waiver of the duopoly rule to be in the public interest where overlapping signal contours were caused by the high conductivity of sea water and where the respective stations clearly served separate and distinct audiences.²

The above cases are in the context of duopoly showing but nevertheless point to the established precedent that overlap cases with over water paths are to be treated in a unique manner.

In the Hearing Designation Order in MM Docket No. 88-551, released January 17, 1989, at paragraph 2, the Commission states:

“2. SPANN COMMUNICATIONS. Spann’s proposed 0.5 mV/m contour will overlap with the 0.5 m/Vm contour of first adjacent station WCBM, Baltimore, Maryland. Unlike Ultimate, Spann did not request a waiver of *Section 73.37* of the Commission’s Rules. However, we have determined that the overlap exists because of a salt water path and does not involve the primary service area of either station. Accordingly, a waiver of *Section 73.37* of our rules will be granted.” Emphasis added.

¹ FCC 82-492, 32230, Lessco, Inc.

² FCC 82-492, 32230, Lessco, Inc.

“13. ULTIMATE HIGH FIDELITY MEDIUM. The applicant has requested a waiver of *Section 73.37* of the Commission’s Rules to allow its proposed 0.5 mV/m contour to overlap the 0.5 mV/m contour of the first adjacent station WCBM, Baltimore, Maryland. The waiver is justified because the contour overlap occurs due to a salt water path and is outside of the primary service area of both stations.” Emphasis added.

The *MM Docket No. 88-551* case deals with prohibited contour overlap in the context of allocations in 1989.

A relatively recent *73.37(a)* waiver case may be seen in the application of WMAL, Inc. for increased daytime facilities for standard broadcast station WMAL on 630 kHz at Washington, D.C., as specified in FCC File No. BP-20050218AAV, granted on June 14, 2005. Here, the 10 kW proposed WMAL 0.5 mV/m contour was associated with 0.025 mV/m received overlap from WPRO covering an area of 1,309.1 square kilometers as compared to the licensed facility which was associated with a grandfathered overlap area of only 729.8 square kilometers. The proposed WMAL service contour was described as covering 37,750 square kilometers.

RVCM respectfully requests herein a waiver of section 73.37(a), if deemed necessary, as follows:

The caused overlap to 1st adjacent channel station WNBH 1340 kHz, New Bedford, MA is:

Caused solely by an over sea water path up the middle of Long island sound extending the WWRV predicted 0.25 mV/m contour 360 kilometers and into the portion of the WNBH 0.5 mV/m contour which extends over water to Block Island and Martha’s Vineyard, the southern tip of Cape Cod and the Cuttyhunk Peninsula. The overlap is also associated with WNBH’s unique over water path associated with the WNBH site location.

A waiver of *73.37(a)* for a small area of increased caused overlap is believed consistent with past precedent given:

1. The 360 kilometer plus over sea water path and the fact that no real interference to WNBH can occur over such a lengthy path and to a first adjacent channel facility. The waiver is believed to be in the public interest as the overlap is essentially fictional due to the long over water path up the east coast through the Atlantic Ocean and is outside the WNBH primary service area over land.
2. The area of overlap is totally enveloped by the WMID 1340 kHz co-channel 0.025 mV/m contour overlap to the WNBH 0.5 mV/m contour.
3. If measured conductivity data were available there would be no actual overlap based on the affiant's experience.

CONCLUSION

The foregoing was prepared on behalf of **RADIO VISION CRISTIANA MANAGEMENT** by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The undersigned certifies, under penalty of perjury, that 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
October 28, 2013

EXHIBIT I

PHYSICAL DESCRIPTION OF DIRECTIONAL ANTENNA SYSTEM RADIO VISION CRISTIANA MANAGMENT PROPOSED 1330 kHz 10kW DA-2U NEW YORK, NEW YORK

OCTOBER 2013

TRANSMITTER SITE:
ARRAY CENTER (NAD27)

North Latitude: 40° 50' 42"
West Longitude: 74° 01' 12"

TOWERS
(Total of four)

Electrical 140.2° plus 35° top loading
87.8 meters above base (288') tower steel
89.9 meters AGL (295') overall height

RADIATOR TYPE:

Vertical, guyed, uniform cross section tower.

TOWER REGISTRATION:

4GTA1	#1054298
4GTA2	#1058315
4GTA3	#1054299
4GTA4	#1058316

All towers 89 meters AGL and 89.9 meters overall height
with a ground elevation of 3 meters.

PATTERN ASSUMPTION:

Sinusoidal current distribution in tower.

GROUND SYSTEM:

Each tower to employ a ground system consisting of 120
equally spaced #10 soft drawn copper radials 32 - 91.4 meters
in length. Radials truncated at point of common intersection
and bonded to copper strap. Copper strap to be used to
interconnect tower bases to transmitter building. A 18.3
meter square ground screen is installed at the base of each
tower.

EXHIBIT II

RADIO VISION CRISTIANA MANAGEMENT
AM BROADCAST STATION WWRV
NEW YORK, NEW YORK

1330 kHz 10 kW U DA-2

DAYTIME STANDARD RADIATION PATTERN DATA
(Radiation Values at One Kilometer)

TOWER Number	Field Ratio	Phase (deg)	Tower Spacing (deg)	Top Bearing (deg)	Height (deg)	Loading (deg)
1	0.419	+32.3	0.0	0.0	140.2	35.0
2	0.956	+114.6	89.9	327.0	140.2	35.0
3	0.974	-132.5	179.7	327.0	140.2	35.0
4	1.000	+0.0	269.6	327.0	140.2	35.0

Input Power (kW)	Loop Loss (ohms)	Theoretical RMS (mV/m)	Q RSS (mV/m)	Standard Factor (mV/m)	Standard RMS (mV/m)
10.0	1.00	1205.	1352.	33.8	1266.

Azimuth (deg)	Field (mV/m)	Azimuth (deg)	Field (mV/m)	Azimuth (deg)	Field (mV/m)	Azimuth (deg)	Field (mV/m)
0	413.	90	1206.	180	2097.	270	630.
5	442.	95	1439.	185	1962.	275	577.
10	483.	100	1650.	190	1800.	280	523.
15	533.	105	1834.	195	1610.	285	474.
20	588.	110	1991.	200	1394.	290	435.
25	640.	115	2121.	205	1157.	295	408.
30	680.	120	2224.	210	905.	300	393.
35	700.	125	2304.	215	647.	305	387.
40	693.	130	2363.	220	397.	310	386.
45	651.	135	2405.	225	188.	315	388.
50	570.	140	2431.	230	175.	320	390.
55	450.	145	2442.	235	330.	325	391.
60	297.	150	2441.	240	477.	330	391.
65	153.	155	2427.	245	589.	335	390.
70	222.	160	2398.	250	662.	340	387.
75	446.	165	2353.	255	697.	345	386.
80	699.	170	2290.	260	698.	350	388.
85	956.	175	2205.	265	673.	355	395.

EXHIBIT III

RADIO VISION CRISTIANA MANAGEMENT
AM BROADCAST STATION WWRV
NEW YORK, NEW YORK

1330 kHz 10 kW U DA-2

NIGHTTIME STANDARD RADIATION PATTERN DATA
(Radiation Values at One Kilometer)

TOWER Number	Field Ratio	Phase (deg)	Spacing (deg)	Bearing (deg)	Tower Height (deg)	Top Loading (deg)
-----	-----	-----	-----	-----	-----	-----
1	0.346	+54.5	0.0	0.0	140.2	35.0
2	0.995	-153.4	89.9	327.0	140.2	35.0
3	1.000	+0.0	179.7	327.0	140.2	35.0
4	0.448	+149.3	269.6	327.0	140.2	35.0

Input Power (kW)	Loop Loss (ohms)	Theoretical RMS (mV/m)	RSS (mV/m)	Q Factor (mV/m)	Standard RMS (mV/m)
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10.0	1.00	1237.	2525.	63.1	1300.

NIGHTTIME STANDARD RADIATION PATTERN DATA
WWRV, NEW YORK, NEW YORK

STANDARD RADIATION
(at One Kilometer)

Azimuth Angle (deg)	-----Elevation Angle in Degrees-----						
	0 (mV/m)	5 (mV/m)	10 (mV/m)	15 (mV/m)	20 (mV/m)	25 (mV/m)	30 (mV/m)
0	169.	165.	151.	133.	115.	99.4	88.6
5	140.	137.	130.	121.	112.	103.	95.4
10	138.	136.	133.	128.	121.	113.	104.
15	153.	152.	148.	142.	134.	123.	111.
20	169.	167.	162.	154.	144.	130.	115.
25	179.	177.	171.	161.	149.	134.	117.
30	183.	181.	175.	164.	151.	136.	119.
35	186.	184.	178.	167.	154.	138.	122.
40	193.	191.	184.	174.	160.	144.	126.
45	202.	200.	193.	182.	167.	150.	131.
50	207.	204.	197.	185.	169.	151.	132.
55	195.	193.	186.	174.	160.	143.	124.
60	159.	157.	151.	143.	132.	118.	104.
65	97.1	96.3	93.9	90.1	84.9	78.5	71.2
70	88.4	86.5	81.1	73.2	63.8	54.4	46.0
75	223.	218.	203.	180.	153.	123.	93.1
80	415.	406.	380.	340.	291.	237.	183.
85	644.	630.	592.	532.	457.	375.	293.
90	898.	880.	827.	745.	642.	529.	416.
95	1167.	1143.	1075.	970.	839.	694.	548.
100	1440.	1411.	1328.	1200.	1040.	863.	684.
105	1706.	1673.	1576.	1426.	1238.	1030.	818.
110	1958.	1920.	1811.	1640.	1427.	1189.	947.
115	2188.	2146.	2025.	1837.	1600.	1336.	1067.
120	2391.	2345.	2214.	2010.	1753.	1466.	1173.
125	2562.	2514.	2375.	2158.	1884.	1578.	1265.
130	2700.	2649.	2504.	2277.	1990.	1669.	1340.
135	2803.	2751.	2601.	2366.	2070.	1738.	1397.
140	2870.	2817.	2664.	2425.	2123.	1783.	1434.
145	2902.	2849.	2694.	2453.	2148.	1805.	1452.
150	2899.	2845.	2691.	2450.	2145.	1802.	1450.
155	2860.	2807.	2654.	2416.	2114.	1776.	1428.
160	2785.	2733.	2584.	2351.	2056.	1726.	1387.
165	2675.	2625.	2481.	2256.	1971.	1653.	1326.
170	2530.	2483.	2345.	2131.	1860.	1558.	1248.
175	2352.	2308.	2179.	1978.	1724.	1442.	1153.

**NIGHTTIME STANDARD RADIATION PATTERN DATA
WWRV, NEW YORK, NEW YORK**

STANDARD RADIATION
(at One Kilometer)

Azimuth Angle (deg)	-----Elevation Angle in Degrees-----					
	35	40	45	50	55	60
	(mV/m)	(mV/m)	(mV/m)	(mV/m)	(mV/m)	(mV/m)
0	80.4	71.9	61.9	50.7	39.5	29.6
5	86.4	75.9	63.9	51.5	39.8	29.8
10	92.1	79.1	65.4	52.0	40.0	30.0
15	96.3	81.2	66.3	52.4	40.4	30.3
20	98.7	82.4	66.9	52.9	40.9	30.8
25	100.	83.3	67.7	53.7	41.6	31.4
30	101.	84.7	69.1	55.0	42.7	32.1
35	104.	87.2	71.2	56.6	43.7	32.7
40	108.	90.3	73.5	58.1	44.6	33.1
45	112.	92.7	74.9	58.8	44.8	33.0
50	112.	92.3	74.2	57.9	43.9	32.2
55	105.	86.8	69.8	54.6	41.4	30.5
60	89.2	74.5	60.7	48.1	37.0	27.7
65	63.3	54.9	46.5	38.3	30.7	23.7
70	39.3	34.2	30.2	26.5	22.7	18.9
75	66.9	45.5	30.0	20.6	16.1	13.8
80	134.	91.5	58.2	34.2	19.0	11.5
85	217.	151.	98.6	59.2	32.2	15.8
90	311.	219.	145.	89.2	49.8	24.6
95	412.	293.	196.	122.	69.5	35.3
100	516.	369.	249.	156.	90.3	46.8
105	619.	445.	301.	191.	111.	58.6
110	719.	518.	353.	224.	132.	70.3
115	812.	587.	401.	256.	152.	81.3
120	896.	649.	444.	285.	169.	91.4
125	967.	703.	482.	310.	185.	100.
130	1026.	747.	514.	331.	198.	108.
135	1071.	781.	537.	347.	208.	113.
140	1101.	803.	553.	358.	214.	117.
145	1115.	814.	561.	363.	218.	119.
150	1113.	812.	560.	362.	217.	119.
155	1096.	799.	551.	356.	213.	117.
160	1063.	775.	533.	344.	206.	112.
165	1016.	739.	508.	327.	196.	106.
170	954.	693.	475.	306.	182.	98.6
175	880.	637.	436.	280.	166.	89.5

NIGHTTIME STANDARD RADIATION PATTERN DATA
WWRV, NEW YORK, NEW YORK

STANDARD RADIATION
(at One Kilometer)

Azimuth Angle (deg)	-----Elevation Angle in Degrees-----						
	0 (mV/m)	5 (mV/m)	10 (mV/m)	15 (mV/m)	20 (mV/m)	25 (mV/m)	30 (mV/m)
180	2144.	2103.	1984.	1799.	1566.	1307.	1044.
185	1909.	1872.	1765.	1599.	1390.	1158.	922.
190	1654.	1621.	1527.	1382.	1199.	997.	792.
195	1385.	1358.	1278.	1155.	1000.	829.	657.
200	1112.	1090.	1025.	925.	799.	661.	521.
205	846.	828.	778.	701.	604.	498.	391.
210	596.	583.	547.	491.	422.	346.	270.
215	373.	365.	342.	306.	261.	212.	163.
220	190.	185.	173.	153.	129.	104.	78.8
225	75.9	74.6	70.9	65.4	59.0	52.6	46.9
230	110.	109.	106.	102.	95.1	87.3	78.5
235	168.	166.	160.	151.	139.	125.	109.
240	199.	197.	189.	178.	163.	145.	126.
245	207.	204.	197.	185.	170.	152.	132.
250	201.	198.	191.	180.	166.	149.	130.
255	191.	189.	183.	172.	159.	143.	125.
260	186.	183.	177.	167.	153.	138.	121.
265	183.	181.	174.	164.	151.	135.	118.
270	178.	176.	170.	160.	148.	133.	117.
275	166.	165.	160.	152.	142.	129.	114.
280	149.	148.	145.	139.	131.	121.	109.
285	136.	135.	131.	125.	119.	111.	102.
290	143.	140.	132.	122.	111.	102.	93.8
295	178.	173.	158.	138.	117.	99.7	87.8
300	232.	224.	203.	172.	138.	108.	87.2
305	292.	282.	254.	214.	168.	125.	92.9
310	348.	336.	303.	255.	200.	146.	103.
315	395.	382.	345.	291.	227.	165.	114.
320	427.	414.	374.	316.	247.	180.	122.
325	444.	429.	389.	328.	257.	187.	126.
330	442.	427.	387.	327.	256.	186.	126.
335	422.	408.	369.	312.	244.	177.	121.
340	386.	374.	337.	284.	222.	162.	111.
345	337.	326.	294.	247.	194.	142.	101.
350	280.	270.	244.	205.	162.	122.	91.3
355	220.	213.	193.	164.	133.	106.	86.8

**NIGHTTIME STANDARD RADIATION PATTERN DATA
WWRV, NEW YORK, NEW YORK**

STANDARD RADIATION
(at One Kilometer)

Azimuth Angle (deg)	-----Elevation Angle in Degrees-----					
	35	40	45	50	55	60
	(mV/m)	(mV/m)	(mV/m)	(mV/m)	(mV/m)	(mV/m)
180	794.	574.	391.	250.	148.	79.2
185	700.	504.	343.	218.	128.	68.0
190	599.	430.	291.	184.	107.	56.3
195	495.	354.	238.	149.	86.1	44.5
200	391.	278.	186.	115.	65.5	33.1
205	291.	205.	136.	82.9	46.1	22.7
210	199.	139.	89.9	53.7	29.1	14.5
215	119.	80.8	51.2	30.2	17.4	11.5
220	56.8	39.4	27.3	20.4	17.0	14.7
225	41.8	37.4	33.1	28.8	24.4	19.9
230	69.1	59.3	49.7	40.5	32.1	24.6
235	93.2	77.6	62.9	49.7	38.1	28.3
240	107.	88.4	71.0	55.5	42.1	30.9
245	112.	92.7	74.6	58.3	44.2	32.4
250	111.	92.4	74.8	58.8	44.8	33.1
255	107.	89.7	73.0	57.8	44.5	33.1
260	104.	86.6	70.7	56.3	43.5	32.6
265	101.	84.3	68.7	54.7	42.4	32.0
270	99.8	83.1	67.5	53.5	41.5	31.3
275	98.4	82.2	66.8	52.8	40.7	30.7
280	95.6	80.9	66.1	52.3	40.3	30.3
285	91.1	78.5	65.1	51.9	40.0	29.9
290	85.2	75.1	63.5	51.3	39.7	29.7
295	79.3	71.1	61.5	50.5	39.5	29.6
300	75.0	67.1	59.1	49.5	39.2	29.4
305	73.6	63.9	56.8	48.4	38.8	29.3
310	75.2	61.9	54.7	47.3	38.4	29.2
315	78.5	61.1	53.2	46.4	38.1	29.2
320	81.8	61.0	52.3	45.8	37.8	29.1
325	83.7	61.1	51.8	45.5	37.7	29.1
330	83.5	61.1	51.9	45.5	37.7	29.1
335	81.2	61.0	52.4	45.9	37.9	29.1
340	77.8	61.2	53.5	46.6	38.2	29.2
345	74.7	62.2	55.1	47.5	38.5	29.3
350	73.7	64.5	57.2	48.6	38.9	29.4
355	75.6	67.9	59.6	49.7	39.2	29.5

Exhibit IV - Page 1
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES
SEPTEMBER 24, 2013 CDBS

WRCA Watertown, MA
Coordinates : 42-17-20.0 N 71-11-21.0 W
Frequency : 1330
Initial PWR: 17.000
Initial Inv Field: 1343.60 mV/M RMS

SITE INFO		CITY	ST	DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50%	RSS LIMIT 25%
CALL	FRQ															
CKLD 1330 CA		THETFORD MINES	QC	420.2	B	465.3	55.7	177.8	248.8	18.0	28.7	247.3	0.122379	6.053	6.053	6.053
WWRVL 1330 US		NEW YORK	NY	281.4	B	345.2	53.1	56.1	173.1	26.5	39.7	140.7	0.211618	5.955	8.491	8.491
WWRVP 1330 US		NEW YORK	NY	285.0	B	348.1	53.0	54.8	196.1	26.2	39.3	139.0	0.209069	5.812	10.290	10.290
WSPQ 1330 US		SPRINGVILLE	NY	615.8	B	647.5	53.9	89.6	289.5	11.8	19.8	275.6	0.075136	4.141	0.000	11.092
WYRD 1330 US		GREENVILLE	SC	1277.3	B	1292.9	50.1	46.4	337.8	3.5	7.7	333.7	0.025426	1.697	0.000	0.000
WYBC 1340 US		NEW HAVEN	CT	183.5	C	271.4	53.3	52.3	269.7	37.7	52.1	209.8	0.301193	1.264	0.000	0.000
WVNR 1340 US		POULTNEY	VT	212.5	C	291.8	54.4	128.8	305.8	33.6	47.9	237.6	0.265153	1.260	0.000	0.000
WBRK 1340 US		PITTSFIELD	MA	167.4	C	260.8	53.9	95.5	346.0	40.3	54.6	184.9	0.316165	1.169	0.000	0.000
WSTJ 1340 US		ST. JOHNSBURY	VT	245.6	C	316.7	54.8	164.3	305.8	29.8	43.7	249.8	0.231856	1.159	0.000	0.000
WMDR 1340 US		AUGUSTA	ME	254.4	C	323.6	54.8	207.4	296.1	28.9	42.6	250.2	0.224557	1.124	0.000	0.000
YVTU 1330 VE		LAGUNILLAS		3571.4	B	3576.9	37.7	0.1	978.6	0.0	0.0	978.6	0.005589	1.094	0.000	0.000
WJNX 1330 US		FORT PIERCE	FL	1846.7	B	1857.5	46.4	24.4	362.6	0.3	3.2	362.6	0.014815	1.074	0.000	0.000
WBNC 1340 US		CONWAY	NH	188.1	C	274.6	54.6	182.0	254.8	37.0	51.4	172.8	0.288877	0.998	0.000	0.000
WALL 1340 US		MIDDLETOWN	NY	284.6	C	347.8	53.4	70.0	307.4	26.2	39.4	235.3	0.208053	0.979	0.000	0.000
WENT 1340 US		GLOVERSVILLE	NY	271.3	C	337.0	54.1	106.5	268.8	27.3	40.8	227.8	0.214458	0.977	0.000	0.000
WGAW 1340 US		GARDNER	MA	73.8	C	213.2	53.9	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
WFNN 1330 US		ERIE	PA	729.2	B	756.1	53.6	84.4	79.0	9.5	16.5	78.1	0.057909	0.905	0.000	0.000
WIRY 1340 US		PLATTSBURG	NY	321.2	C	378.4	55.0	144.7	278.7	23.4	35.9	254.0	0.175309	0.890	0.000	0.000
WTRX 1330 US		FLINT	MI	1021.2	B	1040.6	54.1	90.0	137.7	5.7	10.9	134.8	0.031276	0.843	0.000	0.000
WMID 1340 US		ATLANTIC CITY	NJ	424.4	C	469.2	52.3	39.2	346.3	17.8	28.4	294.3	0.134132	0.790	0.000	0.000
WHAT 1340 US		PHILADELPHIA	PA	421.8	C	466.8	52.6	51.6	320.3	17.9	28.6	292.3	0.134177	0.784	0.000	0.000
CJAN 1340 CA		ASBESTOS	QC	389.7	C	438.0	55.5	170.8	305.8	19.4	30.6	281.1	0.136068	0.765	0.000	0.000
WMSA 1340 US		MASSENA	NY	415.8	C	461.4	55.1	133.0	367.5	18.2	28.9	298.7	0.126890	0.758	0.000	0.000
YVOY 1330 VE		CALABOZO		3727.8	C	3733.2	37.1	355.1	692.0	0.0	0.0	692.0	0.005274	0.730	0.000	0.000
WYCK 1340 US		PLAINS	PA	401.4	C	448.4	53.2	71.7	273.6	18.8	29.9	253.0	0.140675	0.712	0.000	0.000
YVPJ 1330 VE		RUBIO		3847.2	C	3852.4	36.5	1.5	692.0	0.0	0.0	692.0	0.005094	0.705	0.000	0.000
WNZS 1340 US		VEAZIE	ME	349.5	C	402.6	55.1	216.2	245.7	21.6	33.6	220.2	0.158262	0.697	0.000	0.000
WWLF 1340 US		AUBURN	NY	447.4	C	490.1	54.1	97.6	312.2	16.8	27.1	291.8	0.118879	0.694	0.000	0.000
WATR 1320 US		WATERBURY	CT	173.8	B	265.0	53.4	60.6	198.5	39.2	53.6	110.4	0.311244	0.687	0.000	0.000
HJNR 1330 CO		S GIL 1		3979.8	C	3984.9	35.9	2.4	692.0	0.0	0.0	692.0	0.004883	0.676	0.000	0.000
KNSS 1330 US		WICHITA	KS	2267.3	B	2276.1	51.7	68.8	447.5	0.0	0.9	447.5	0.007272	0.651	0.000	0.000
WHBL 1330 US		SHEBOYGAN	WI	1352.3	B	1367.0	54.6	91.0	183.2	3.0	7.0	182.5	0.017617	0.643	0.000	0.000
WWPA 1340 US		WILLIAMSPORT	PA	497.0	C	535.7	53.2	74.4	289.7	15.0	24.6	274.7	0.105651	0.580	0.000	0.000
WWNH 1340 US		MADBURY	NH	100.8	C	223.9	54.2	192.9	151.7	54.8	66.9	74.1	0.391627	0.580	0.000	0.000
WRAW 1340 US		READING	PA	451.3	C	493.7	52.8	59.5	241.4	16.7	26.9	228.4	0.122234	0.558	0.000	0.000
WBTM 1330 US		DANVILLE	VA	947.9	B	968.7	50.9	45.7	63.4	6.5	12.0	62.9	0.041614	0.523	0.000	0.000
WJSS 1330 US		HAVRE DE GRACE	MD	512.9	B	550.5	52.4	52.2	20.4	14.5	23.8	24.5	0.103626	0.508	0.000	0.000
KWLO 1330 US		WATERLOO	IA	1726.7	B	1738.3	54.0	83.5	206.4	0.9	4.0	206.1	0.011017	0.454	0.000	0.000
WYCB 1340 US		WASHINGTON	DC	614.7	C	646.4	52.1	51.1	290.0	11.8	19.9	270.8	0.080266	0.435	0.000	0.000

Exhibit IV - Page 2
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES
SEPTEMBER 24, 2013 CDBS

WJNX Fort Pierce, FL
Coordinates : 27-27-20.0 N 80-22-02.0 W
Frequency : 1330
Initial PWR: 1.000
Initial Inv Field: 308.69 mV/M RMS

SITE INFO																	
CALL	FRQ	COUNTRY	CITY	ST	DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50%	RSS LIMIT 25%
WYRD	1330	US	GREENVILLE	SC	845.5	B	868.9	42.4	166.1	1136.6	7.8	13.9	1088.1	0.059567	12.962	12.962	12.962
WMLT	1330	US	DUBLIN	GA	616.8	B	648.4	41.2	156.4	313.3	11.7	19.8	304.4	0.093213	5.675	0.000	14.150
WBTM	1330	US	DANVILLE	VA	1021.3	B	1040.7	43.3	185.2	487.2	5.7	10.9	481.4	0.044264	4.262	0.000	14.778
KVOL	1330	US	LAFAYETTE	LA	1179.3	B	1196.1	39.9	102.3	565.4	4.3	8.8	562.8	0.036685	4.129	0.000	15.344
WWRVP	1330	US	NEW YORK	NY	1597.9	B	1610.4	45.5	203.3	935.6	1.5	4.9	933.8	0.019889	3.714	0.000	0.000
WWRVL	1330	US	NEW YORK	NY	1604.4	B	1616.8	45.6	203.2	899.8	1.5	4.8	898.9	0.019725	3.546	0.000	0.000
YVTU	1330	VE	LAGUNILLAS		2146.1	B	2155.4	30.3	334.8	978.6	0.0	1.5	978.6	0.018044	3.532	0.000	0.000
WNIX	1330	US	GREENVILLE	MS	1215.7	B	1232.0	41.5	120.2	400.8	4.0	8.4	399.1	0.034328	2.740	0.000	0.000
XEFC	1330	MX	MERIDA	YC	1178.4	B	1195.3	35.3	50.7	303.2	4.3	8.8	301.9	0.041539	2.508	0.000	0.000
YVPJ	1330	VE	RUBIO		2354.3	C	2362.8	29.0	339.9	692.0	0.0	0.5	692.0	0.015906	2.201	0.000	0.000
HJNR	1330	CO	S GIL 1		2448.8	C	2457.0	28.4	342.6	692.0	0.0	0.0	692.0	0.015086	2.088	0.000	0.000
YVOY	1330	VE	CALABOZO		2464.4	C	2472.5	29.8	328.4	692.0	0.0	0.0	692.0	0.014478	2.004	0.000	0.000
WJNJ	1320	US	JACKSONVILLE	FL	342.9	B	397.0	40.1	156.7	590.9	22.0	34.1	535.4	0.185658	1.988	0.000	0.000
WVHI	1330	US	EVANSVILLE	IN	1357.1	B	1371.8	43.9	148.1	324.7	3.0	6.9	323.1	0.027581	1.782	0.000	0.000
HRSW	1330	HO	TEGUCIGALPA		1649.8	C	1661.9	31.9	24.5	309.5	1.3	4.5	309.4	0.026673	1.650	0.000	0.000
WJSS	1330	US	HAVRE DE GRACE	MD	1402.3	B	1416.5	44.8	197.5	304.4	2.7	6.5	303.3	0.025522	1.548	0.000	0.000
YNAC	1330	NU	RADIO CIMA		1780.1	C	1791.3	30.9	15.3	309.5	0.6	3.6	309.5	0.024132	1.494	0.000	0.000
WLQY	1320	US	HOLLYWOOD	FL	158.6	B	255.2	38.0	356.8	79.1	41.9	56.1	212.5	0.341233	1.450	0.000	0.000
KNSS	1330	US	WICHITA	KS	1944.5	B	1954.8	43.6	121.0	481.2	0.0	2.6	481.2	0.014678	1.413	0.000	0.000
HJAD	1330	CO	CARTAGENA 8		1947.7	C	1958.0	30.4	345.7	309.5	0.0	2.6	309.5	0.021123	1.308	0.000	0.000
WROD	1340	US	DAYTONA BEACH	FL	202.6	C	284.7	39.6	161.8	360.5	34.9	49.2	208.1	0.290343	1.208	0.000	0.000
WITS	1340	US	SEBRING	FL	104.2	C	225.5	38.7	93.0	316.0	53.9	66.2	147.5	0.395501	1.167	0.000	0.000
WTAN	1340	US	CLEARWATER	FL	245.9	C	317.0	38.9	102.9	269.7	29.8	43.6	224.3	0.254870	1.143	0.000	0.000
WWFL	1340	US	CLERMONT	FL	181.5	C	270.1	39.2	133.4	241.0	38.0	52.4	181.6	0.312185	1.134	0.000	0.000
XEAH	1330	MX	JUCHITAN	OA	1942.4	B	1952.6	32.9	48.4	279.4	0.0	2.6	279.4	0.019970	1.116	0.000	0.000
WPBR	1340	US	LANTANA	FL	97.1	C	222.3	38.3	343.1	263.7	55.8	67.7	131.9	0.404686	1.067	0.000	0.000
XEOC	1330	MX	SANTO TOMAS OXC	CS	1708.7	B	1720.4	33.1	44.0	215.2	1.0	4.1	215.1	0.024488	1.054	0.000	0.000
WDSR	1340	US	LAKE CITY	FL	372.8	C	423.1	40.0	143.1	403.9	20.3	31.8	293.4	0.170169	0.998	0.000	0.000
XEBO	1330	MX	IRAPUATO	GT	2258.6	B	2267.4	35.0	66.3	304.4	0.0	0.9	304.4	0.014594	0.888	0.000	0.000
XEEV	1330	MX	IZUCAR DE MATAM	PU	2092.7	B	2102.3	34.0	58.7	258.9	0.0	1.8	258.9	0.017135	0.887	0.000	0.000
WDDV	1320	US	VENICE	FL	204.6	B	286.1	38.5	78.6	136.1	34.7	49.0	150.2	0.292947	0.880	0.000	0.000
HJFE	1330	CO	PEREIRA 2		2571.2	C	2579.0	27.5	349.3	309.5	0.0	0.0	309.5	0.014176	0.877	0.000	0.000
KCKM	1330	US	MONAHANS	TX	2233.8	B	2242.7	40.5	96.2	315.3	0.0	1.1	315.3	0.012246	0.772	0.000	0.000
HCVR	1330	EC	MACHALA		3415.2	B	3421.0	23.4	359.1	379.0	0.0	0.0	379.0	0.009425	0.714	0.000	0.000
XENP	1330	MX	OCOTLAN	JA	2404.6	B	2412.9	34.8	66.5	264.5	0.0	0.2	264.5	0.013144	0.695	0.000	0.000
KINE	1330	US	KINGSVILLE	TX	1716.8	B	1728.4	38.5	86.5	164.4	0.9	4.0	164.3	0.020806	0.684	0.000	0.000
WTIF	1340	US	TIPTON	GA	538.9	C	574.8	40.6	145.1	305.8	13.7	22.7	293.3	0.111030	0.651	0.000	0.000
WRCA	1330	US	WATERTOWN	MA	1846.7	B	1857.5	46.4	209.7	218.4	0.3	3.2	218.4	0.014815	0.647	0.000	0.000
XEMA	1330	MX	MANZANILLO	CL	2614.0	B	2621.7	34.1	64.6	278.0	0.0	0.0	278.0	0.011574	0.643	0.000	0.000
WBBT	1340	US	LYONS	GA	561.8	C	596.4	41.0	159.8	305.8	13.1	21.8	294.3	0.105299	0.620	0.000	0.000
KWKW	1330	US	LOS ANGELES	CA	3680.3	B	3685.7	41.9	91.0	695.7	0.0	0.0	695.7	0.004378	0.609	0.000	0.000
WFNN	1330	US	ERIE	PA	1616.5	B	1628.8	46.0	181.2	156.4	1.4	4.8	155.8	0.019228	0.599	0.000	0.000

Exhibit IV - Page 3
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES
SEPTEMBER 24, 2013 CDBS

WMLT Dublin, GA
 Coordinates : 32-33-50.0 N 82-52-00.0 W
 Frequency : 1330
 Initial PWR: 0.500
 Initial Inv Field: 210.82 mV/M RMS

SITE INFO														
CALLF	RQ	COUNTRY	CITY	ST	DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD
LIMITATION RSS LIMIT 50% RSS IMIT25%														
WYRD	1330	US	GREENVILLE	SC	258.0	B	326.4	44.8	189.3	572.2	28.6	42.2	227.3	0.245614
WBTM	1330	US	DANVILLE	VA	548.4	B	583.7	45.8	215.9	174.0	13.5	22.3	163.9	0.106379
WVHI	1330	US	EVANSVILLE	IN	745.7	B	772.1	46.3	143.5	258.4	9.2	16.1	245.6	0.068577
WNIX	1330	US	GREENVILLE	MS	765.7	B	791.4	43.9	94.8	193.2	8.9	15.6	190.2	0.067952
KVOL	1330	US	LAFAYETTE	LA	909.3	B	931.1	42.3	71.1	236.4	6.9	12.7	241.0	0.053476
YVTU	1330	VE	LAGUNILLAS		2760.4	B	2767.6	32.9	336.2	978.6	0.0	0.0	978.6	0.010928
WWRVL	1330	US	NEW YORK	NY	1215.7	B	1232.1	48.1	223.1	292.5	4.0	8.4	290.2	0.029859
XEFC	1330	MX	MERIDA	YC	1447.7	B	1461.5	37.7	26.0	303.2	2.4	6.1	302.8	0.028268
YVPJ	1330	VE	RUBIO		2971.1	C	2977.8	31.6	339.9	692.0	0.0	0.0	692.0	0.009944
WOKS	1340	US	COLUMBUS	GA	197.9	C	281.4	43.6	85.8	296.1	35.6	49.9	228.9	0.299175
WTIF	1340	US	TIFTON	GA	134.8	C	241.2	43.1	25.5	305.8	46.6	60.3	186.5	0.365532
HJNR	1330	CO	S GIL 1		3065.0	C	3071.5	31.0	342.0	692.0	0.0	0.0	692.0	0.009568
KNSS	1330	US	WICHITA	KS	1425.3	B	1439.2	46.0	109.4	277.1	2.6	6.3	274.4	0.024097
WYNF	1340	US	AUGUSTA	GA	131.3	C	239.3	44.2	218.3	291.8	47.3	60.9	173.6	0.371457
YVOY	1330	VE	CALLABOZO		3067.7	C	3074.2	32.4	331.2	692.0	0.0	0.0	692.0	0.009169
WJNJ	1320	US	JACKSONVILLE	FL	273.9	B	339.1	42.6	337.4	628.9	27.1	40.5	265.7	0.232161
WQSC	1340	US	CHARLESTON	SC	273.3	C	338.6	43.9	264.8	312.2	27.2	40.5	261.7	0.233390
WIFN	1340	US	ATLANTA	GA	194.7	C	279.1	44.2	132.2	275.2	36.0	50.4	201.4	0.303095
WGAA	1340	US	CEDARTOWN	GA	275.4	C	340.4	44.3	125.8	328.3	27.0	40.3	263.1	0.231904
WELG	1340	US	MOUNTAIN CITY	GA	268.3	C	334.7	44.8	169.5	355.2	27.6	41.1	253.4	0.237381
WJNX	1330	US	FORT PIERCE	FL	616.8	B	648.4	41.2	337.7	73.6	11.7	19.8	64.2	0.093213
WSSC	1340	US	SUMTER	SC	280.9	C	344.8	44.4	238.0	309.0	26.5	39.8	261.2	0.227812
WRHI	1340	US	ROCK HILL	SC	318.5	C	376.1	44.9	212.9	318.6	23.6	36.2	275.5	0.201955
WFEB	1340	US	SYLACAUGA	AL	321.5	C	378.6	43.9	101.2	307.4	23.4	35.9	271.4	0.200209
WBAC	1340	US	CLEVELAND	TN	342.4	C	396.6	44.9	147.1	354.1	22.0	34.1	285.9	0.187524
WJSS	1330	US	HAVRE DE GRACE	MD	986.1	B	1006.2	47.4	220.0	124.3	6.1	11.4	121.7	0.043436
HRSW	1330	HO	TEGUCIGALPA		2103.6	C	2113.1	34.3	11.4	309.5	0.0	1.7	309.5	0.016814
WDSR	1340	US	LAKE CITY	FL	268.6	C	334.9	42.5	355.4	403.9	27.6	41.0	219.9	0.236023
WKGX	1340	US	KNOXVILLE	TN	390.5	C	438.7	45.3	164.6	354.1	19.4	30.6	300.2	0.162278
WROD	1340	US	DAYTONA BEACH	FL	415.1	C	460.7	42.0	335.2	360.5	18.2	29.0	310.4	0.152103
YNAC	1330	NU	RADIO CIMA		2290.1	C	2298.8	33.4	5.3	309.5	0.0	0.8	309.5	0.014936
WJRI	1340	US	LENOIR	NC	389.3	C	437.7	45.4	198.4	309.7	19.4	30.7	283.4	0.162818
WADE	1340	US	WADESBORO	NC	371.9	C	422.2	44.9	225.2	285.4	20.3	31.9	264.7	0.171610
WAGR	1340	US	LUMBERTON	NC	422.9	C	467.8	44.8	238.7	346.0	17.8	28.5	305.4	0.148297
WBBT	1340	US	LYONS	GA	63.6	C	209.9	43.5	308.0	305.8	66.0	75.0	102.0	0.438636
WJAM	1340	US	SELMA	AL	387.5	C	436.1	43.5	86.6	294.5	19.5	30.8	272.0	0.164344
XEAH	1330	MX	JUCHITAN	OA	2170.0	B	2179.2	35.3	32.1	279.4	0.0	1.4	279.4	0.015466
WPOL	1340	US	WINSTON-SALEM	NC	458.0	C	499.7	45.5	212.3	384.6	16.4	26.5	321.8	0.134272
WGAI	1340	US	ATHENS	GA	160.9	C	256.7	44.3	162.0	363.6	41.4	55.7	126.9	0.338907
WTRX	1330	US	FLINT	MI	1159.4	B	1176.5	48.8	176.3	134.3	4.5	9.0	132.0	0.031673
WFNN	1330	US	ERIE	PA	1077.7	B	1096.1	48.5	194.3	121.8	5.2	10.1	114.6	0.036370
WCDT	1340	US	WINCHESTER	TN	416.3	C	461.8	44.9	133.4	292.9	18.1	28.9	274.3	0.151003
XEBO	1330	MX	IRAPUATO	GT	2261.1	B	2269.9	37.3	50.3	304.4	0.0	0.9	304.4	0.013458

Exhibit IV - Page 3, continued
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES
SEPTEMBER 24, 2013 CDBS

WMLT Dublin, GA
 Coordinates : 32-33-50.0 N 82-52-00.0 W
 Frequency : 1330
 Initial PWR: 0.500
 Initial Inv Field: 210.82 mV/M RMS

SITE INFO																	
CALLF	RQ	COUNTRY	CITY	ST	DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50%	RSS IMIT25%
WMHZ	1340	US	HOLT	AL	437.6	C	481.1	43.9	98.3	306.2	17.2	27.6	286.4	0.142855	0.818	0.000	0.000
WGRV	1340	US	GREENEVILLE	TN	400.9	C	448.0	45.5	180.3	296.1	18.8	29.9	257.7	0.157386	0.811	0.000	0.000
KINE	1330	US	KINGSVILLE	TX	1536.3	B	1549.3	40.9	65.4	164.4	1.9	5.4	164.2	0.023539	0.773	0.000	0.000
HJAD	1330	CO	CARTAGENA 8		2561.5	C	2569.3	32.9	344.1	309.5	0.0	0.0	309.5	0.012462	0.771	0.000	0.000
WFMH	1340	US	CULLMAN	AL	412.5	C	458.4	44.4	114.7	296.3	18.3	29.1	252.2	0.152870	0.771	0.000	0.000
XEOC	1330	MX	SANTO TOMAS OXC	CS	1995.5	B	2005.5	35.6	26.7	215.2	0.0	2.3	215.2	0.017732	0.763	0.000	0.000
XEEV	1330	MX	IZUCAR DE MATAM	PU	2197.4	B	2206.5	36.3	42.1	258.9	0.0	1.2	258.9	0.014640	0.758	0.000	0.000
WKCB	1340	US	HINDMAN	KY	530.0	C	566.4	46.0	178.6	394.3	14.0	23.1	339.6	0.111038	0.754	0.000	0.000
KWLO	1330	US	WATERLOO	IA	1376.2	B	1390.7	48.4	140.1	157.4	2.9	6.7	157.4	0.023699	0.746	0.000	0.000
WTYS	1340	US	MARIANNA	FL	300.2	C	360.7	42.7	47.6	305.7	24.9	37.8	174.6	0.213569	0.746	0.000	0.000
WBGH	1340	US	BOWLING GREEN	KY	592.7	C	625.6	45.8	145.4	421.6	12.3	20.6	381.6	0.095770	0.731	0.000	0.000
WHLB	1330	US	SHEBOYGAN	WI	1310.8	B	1325.9	49.1	159.5	144.7	3.3	7.4	144.1	0.025205	0.726	0.000	0.000
KWKW	1330	US	LOS ANGELES	CA	3284.7	B	3290.8	44.1	82.8	698.1	0.0	0.0	698.1	0.005089	0.711	0.000	0.000
WKRM	1340	US	COLUMBIA	TN	513.3	C	550.9	45.1	130.1	309.0	14.5	23.8	294.4	0.116641	0.687	0.000	0.000
WLSG	1340	US	WILMINGTON	NC	492.1	C	531.2	44.7	249.2	289.2	15.2	24.8	275.8	0.123387	0.681	0.000	0.000
WSBM	1340	US	FLORENCE	AL	508.6	C	546.5	44.7	117.9	300.9	14.7	24.0	287.0	0.118332	0.679	0.000	0.000
XENP	1330	MX	OCOTLAN	JA	2394.3	B	2402.6	37.1	51.3	264.5	0.0	0.3	264.5	0.012222	0.646	0.000	0.000
WWFL	1340	US	CLERMONT	FL	456.3	C	498.2	41.7	346.2	241.0	16.5	26.6	228.9	0.136190	0.624	0.000	0.000
WITS	1340	US	SEBRING	FL	579.0	C	612.6	41.2	346.5	316.0	12.7	21.1	303.2	0.101278	0.614	0.000	0.000
WTAN	1340	US	CLEARWATER	FL	510.5	C	548.3	41.4	359.3	269.7	14.6	23.9	258.1	0.118828	0.613	0.000	0.000
WCMI	1340	US	ASHLAND	KY	656.8	C	686.6	46.6	182.2	405.8	10.9	18.5	370.4	0.082134	0.608	0.000	0.000
WBLB	1340	US	PULASKI	VA	535.4	C	571.5	46.0	201.4	288.0	13.8	22.8	276.1	0.109630	0.605	0.000	0.000
WWRVP	1330	US	NEW YORK	NY	1210.9	B	1227.3	48.1	223.3	100.5	4.0	8.4	99.0	0.030101	0.596	0.000	0.000

Exhibit IV - Page 4
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES
SEPTEMBER 24, 2013 CDBS

WBTM Danville, VA
Coordinates : 36-36-26.0 N 79-26-01.0 W
Frequency : 1330
Initial PWR: 1.000
Initial Inv Field: 337.96 mV/M RMA

SITE INFO															
CALL FRQ	COUNTRY	CITY	ST DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50%	RSS LIMIT 25%
WYRD 1330 US		GREENVILLE	SC 332.8	B	388.3	46.9	53.3	446.2	22.6	34.9	250.3	0.191831	9.603	9.603	9.603
WVHI 1330 US		EVANSVILLE	IN 738.9	B	765.5	48.5	100.1	261.9	9.4	16.3	256.3	0.066819	3.424	0.000	10.196
WWRVL 1330 US		NEW YORK	NY 669.5	B	698.7	50.2	226.1	211.0	10.6	18.1	200.1	0.074559	2.984	0.000	10.623
WJSS 1330 US		HAVRE DE GRACE	MD 438.4	B	481.9	49.4	222.4	106.1	17.2	27.6	88.6	0.136095	2.411	0.000	0.000
KWLO 1330 US		WATERLOO	IA 1276.7	B	1292.2	50.6	116.4	369.6	3.6	7.7	363.8	0.024824	1.806	0.000	0.000
WJNX 1330 US		FORT PIERCE	FL 1021.3	B	1040.7	43.3	4.7	196.1	5.7	10.9	195.4	0.044264	1.730	0.000	0.000
YVTU 1330 VE		LAGUNILLAS	3052.8	B	3059.3	34.9	345.7	978.6	0.0	0.0	978.6	0.008505	1.665	0.000	0.000
WSPQ 1330 US		SPRINGVILLE	NY 658.1	B	687.8	50.8	185.8	96.9	10.9	18.5	103.3	0.075158	1.553	0.000	0.000
WJRI 1340 US		LENOIR	NC 206.3	C	287.4	47.5	66.8	309.7	34.4	48.7	234.0	0.291867	1.366	0.000	0.000
WADE 1340 US		WADESBORO	NC 192.2	C	277.4	47.0	16.6	285.4	36.4	50.8	222.3	0.306591	1.363	0.000	0.000
WHAP 1340 US		HOPEWELL	VA 203.3	C	285.2	48.3	248.5	299.3	34.8	49.1	229.9	0.294197	1.353	0.000	0.000
WOOW 1340 US		GREENVILLE	NC 215.6	C	294.1	47.4	301.3	305.8	33.2	47.5	237.9	0.282766	1.346	0.000	0.000
WRHI 1340 US		ROCK HILL	SC 230.4	C	305.1	47.0	37.9	318.6	31.5	45.5	245.9	0.269065	1.323	0.000	0.000
KNSS 1330 US		WICHITA	KS 1580.8	B	1593.4	48.2	89.0	354.0	1.6	5.0	352.2	0.018486	1.302	0.000	0.000
WJAS 1320 US		PITTSBURGH	PA 432.4	B	476.5	49.8	174.4	527.3	17.4	27.9	469.4	0.137682	1.293	0.000	0.000
WBLB 1340 US		PULASKI	VA 130.5	C	238.8	48.1	112.6	288.0	47.5	61.1	172.0	0.375092	1.290	0.000	0.000
WMON 1340 US		MONTGOMERY	WV 240.9	C	313.1	48.6	135.8	305.8	30.3	44.2	248.6	0.257754	1.282	0.000	0.000
WAGR 1340 US		LUMBERTON	NC 226.5	C	302.2	46.9	350.4	346.0	31.9	46.0	233.0	0.272722	1.271	0.000	0.000
WFNN 1330 US		ERIE	PA 600.9	B	633.3	50.6	174.9	104.7	12.1	20.3	70.2	0.086683	1.218	0.000	0.000
WSSC 1340 US		SUMTER	SC 308.5	C	367.7	46.5	14.9	309.0	24.3	37.1	268.2	0.207650	1.114	0.000	0.000
WCBQ 1340 US		OXFORD	NC 83.5	C	216.7	47.7	293.8	304.2	59.7	70.5	129.5	0.427203	1.106	0.000	0.000
WHBL 1330 US		SHEBOYGAN	WI 1058.5	B	1077.3	51.3	135.5	164.8	5.4	10.3	163.3	0.033836	1.105	0.000	0.000
WLSG 1340 US		WILMINGTON	NC 296.2	C	357.4	46.7	333.5	289.2	25.2	38.2	253.4	0.215963	1.095	0.000	0.000
YVPJ 1330 VE		RUBIO	3293.8	C	3299.8	33.6	348.4	692.0	0.0	0.0	692.0	0.007713	1.067	0.000	0.000
WWRVP 1330 US		NEW YORK	NY 664.9	B	694.3	50.1	226.6	73.1	10.7	18.3	70.1	0.075394	1.056	0.000	0.000
WKEY 1340 US		COVINGTON	VA 137.9	C	243.0	48.4	159.1	354.1	45.9	59.7	141.6	0.366289	1.037	0.000	0.000
YVOY 1330 VE		CALABOZO	3305.9	C	3312.0	34.3	340.4	692.0	0.0	0.0	692.0	0.007463	1.033	0.000	0.000
HJNR 1330 CO		S GIL 1	3404.7	C	3410.5	33.0	350.0	692.0	0.0	0.0	692.0	0.007398	1.024	0.000	0.000
WKCB 1340 US		HINDMAN	KY 327.2	C	383.5	48.2	103.1	394.3	23.0	35.4	261.1	0.193684	1.012	0.000	0.000
WCMI 1340 US		ASHLAND	KY 347.2	C	400.7	48.7	125.6	405.8	21.7	33.8	279.5	0.180795	1.011	0.000	0.000
WVCV 1340 US		ORANGE	VA 216.7	C	294.9	48.7	212.7	305.8	33.1	47.3	176.5	0.280266	0.990	0.000	0.000
WEPM 1340 US		MARTINSBURG	WV 341.9	C	396.1	49.3	202.2	305.8	22.1	34.2	269.4	0.182710	0.984	0.000	0.000
WGRV 1340 US		GREENEVILLE	TN 309.4	C	368.4	47.6	79.9	296.1	24.2	37.0	235.4	0.205975	0.970	0.000	0.000
WELG 1340 US		MOUNTAIN CITY	GA 402.3	C	449.3	47.0	61.4	355.2	18.8	29.8	303.6	0.155334	0.943	0.000	0.000
XEFC 1330 MX		MERIDA	YC 1994.6	B	2004.6	39.9	27.4	303.2	0.0	2.3	303.2	0.015248	0.925	0.000	0.000
WKGX 1340 US		KNOXVILLE	TN 413.0	C	458.9	47.5	78.6	354.1	18.3	29.1	305.5	0.149956	0.916	0.000	0.000
WTRX 1330 US		FLINT	MI 793.9	B	818.7	51.0	151.7	87.6	8.5	15.0	80.9	0.055766	0.902	0.000	0.000
WOUB 1340 US		ATHENS	OH 381.9	C	431.1	49.2	141.6	286.5	19.8	31.2	264.9	0.161500	0.856	0.000	0.000
WQSC 1340 US		CHARLESTON	SC 424.0	C	468.8	46.0	6.4	312.2	17.8	28.4	289.4	0.146988	0.851	0.000	0.000
WYCB 1340 US		WASHINGTON	DC 337.2	C	392.1	49.1	220.0	290.0	22.4	34.6	226.9	0.185944	0.844	0.000	0.000
WGAX 1340 US		ATHENS	GA 466.2	C	507.3	46.5	49.4	363.6	16.1	26.1	311.7	0.130432	0.813	0.000	0.000
WYNF 1340 US		AUGUSTA	GA 417.5	C	462.9	46.3	33.3	291.8	18.1	28.8	271.1	0.149440	0.810	0.000	0.000
CKLD 1330 CA		THETFORD MINES	QC 1246.3	B	1262.2	52.8	215.3	175.2	3.8	8.0	173.8	0.023231	0.808	0.000	0.000

Exhibit IV - Page 5
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES
SEPTEMBER 24, 2013 CDBS

WYRD Greenville, SC
Coordinates : 34-51-18.0 N 82-25-24.0 W
Frequency : 1330
Initial PWR: 5.000
Initial Inv Field: 788.58 mV/M RMS

SITE INFO																	
CALL	FRQ	COUNTRY	CITY	ST	DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50%	RSS LIMIT 25%
YVTU	1330	VE	LAGUNILLAS		2969.8	B	2976.5	34.0	339.3	978.6	0.0	0.0	978.6	0.009225	1.806	1.806	1.806
WBTM	1330	US	DANVILLE	VA	332.8	B	388.3	46.9	235.1	46.7	22.6	34.9	41.4	0.191831	1.590	2.406	2.406
WJRI	1340	US	LENOIR	NC	139.6	C	243.9	46.5	214.4	309.7	45.5	59.4	188.3	0.364646	1.374	2.770	2.770
WSSC	1340	US	SUMTER	SC	218.3	C	296.1	45.6	298.7	309.0	32.9	47.1	238.3	0.280680	1.338	0.000	3.076
WYNF	1340	US	AUGUSTA	GA	156.3	C	253.9	45.3	345.6	291.8	42.3	56.4	193.6	0.344994	1.336	0.000	3.354
KNSS	1330	US	WICHITA	KS	1364.4	B	1379.0	47.1	99.0	270.6	2.9	6.9	265.2	0.025146	1.334	0.000	3.609
WADE	1340	US	WADESBORO	NC	216.7	C	294.9	46.1	267.8	285.4	33.1	47.3	232.5	0.282266	1.313	0.000	3.841
WRHI	1340	US	ROCK HILL	SC	128.7	C	237.9	46.1	264.1	318.6	47.9	61.4	174.0	0.376802	1.311	0.000	4.058
WMLT	1330	US	DUBLIN	GA	258.0	B	326.4	44.8	9.0	64.9	28.6	42.2	26.7	0.245614	1.311	0.000	4.265
XEFC	1330	MX	MERIDA	YC	1692.4	B	1704.2	38.9	23.0	303.2	1.0	4.2	303.2	0.021045	1.276	0.000	4.452
WBAC	1340	US	CLEVELAND	TN	224.0	C	300.3	46.1	98.2	354.1	32.2	46.3	224.6	0.275356	1.237	0.000	4.620
WGAA	1340	US	CEBARTOWN	GA	274.8	C	339.9	45.5	69.8	328.3	27.0	40.4	262.9	0.232320	1.221	0.000	4.779
WKGX	1340	US	KNOXVILLE	TN	186.1	C	273.2	46.5	130.7	354.1	37.3	51.7	192.7	0.313111	1.207	0.000	4.929
WIFN	1340	US	ATLANTA	GA	219.8	C	297.2	45.4	55.4	275.2	32.7	46.9	212.8	0.279227	1.189	0.000	0.000
YVPJ	1330	VE	RUBIO		3190.7	C	3197.0	32.7	342.6	692.0	0.0	0.0	692.0	0.008427	1.166	0.000	0.000
WBBT	1340	US	LYONS	GA	293.8	C	355.4	44.7	358.4	305.8	25.4	38.5	264.6	0.218501	1.156	0.000	0.000
WAGR	1340	US	LUMBERTON	NC	313.2	C	371.7	46.0	276.2	346.0	24.0	36.6	276.5	0.204928	1.133	0.000	0.000
HJNR	1330	CO	S GIL 1		3290.0	C	3296.1	32.1	344.4	692.0	0.0	0.0	692.0	0.008119	1.124	0.000	0.000
WWRVL	1330	US	NEW YORK	NY	997.1	B	1017.0	49.3	230.2	140.5	6.0	11.2	138.8	0.040448	1.123	0.000	0.000
WBLB	1340	US	PULASKI	VA	286.7	C	349.5	47.1	211.5	288.0	26.0	39.2	247.9	0.222469	1.103	0.000	0.000
WQSC	1340	US	CHARLESTON	SC	320.8	C	378.0	45.0	315.6	312.2	23.4	36.0	273.8	0.200495	1.098	0.000	0.000
YVOY	1330	VE	CALABOZO		3259.5	C	3265.6	33.5	334.4	692.0	0.0	0.0	692.0	0.007895	1.093	0.000	0.000
WPOL	1340	US	WINSTON-SALEM	NC	238.5	C	311.3	46.7	236.0	384.6	30.6	44.5	204.0	0.261872	1.068	0.000	0.000
WFNN	1330	US	ERIE	PA	820.4	B	844.4	49.6	195.5	113.2	8.1	14.4	96.0	0.055160	1.059	0.000	0.000
WVCB	1340	US	HINDMAN	KY	280.0	C	344.1	47.2	169.1	394.3	26.6	39.8	225.9	0.227372	1.027	0.000	0.000
WGRV	1340	US	GREENEVILLE	TN	151.1	C	250.7	46.6	165.1	296.1	43.3	57.3	144.1	0.351612	1.013	0.000	0.000
WTRX	1330	US	FLINT	MI	908.8	B	930.5	50.0	172.9	115.1	7.0	12.7	109.6	0.046141	1.011	0.000	0.000
WCDT	1340	US	WINCHESTER	TN	336.1	C	391.1	46.1	95.1	292.9	22.4	34.7	264.9	0.190649	1.010	0.000	0.000
KWLO	1330	US	WATERLOO	IA	1201.1	B	1217.6	49.6	131.5	174.2	4.1	8.5	171.3	0.028980	0.993	0.000	0.000
WBGX	1340	US	BOWLING GREEN	KY	434.6	C	478.4	47.0	122.2	421.6	17.3	27.8	345.5	0.141639	0.979	0.000	0.000
WOKS	1340	US	COLUMBUS	GA	356.5	C	408.7	44.7	40.8	296.1	21.2	33.0	270.8	0.179779	0.974	0.000	0.000
WEKY	1340	US	RICHMOND	KY	360.1	C	412.0	47.4	151.5	304.2	21.0	32.7	276.0	0.175695	0.970	0.000	0.000
WUBL	1330	US	SHEBOYGAN	WI	1085.9	B	1104.1	50.3	153.4	144.9	5.1	10.0	143.7	0.033714	0.969	0.000	0.000
WKEY	1340	US	COVINGTON	VA	390.6	C	438.8	47.5	214.7	354.1	19.3	30.6	300.2	0.160083	0.961	0.000	0.000
WCMI	1340	US	ASHLAND	KY	401.9	C	448.9	47.8	177.7	405.8	18.8	29.8	307.8	0.154426	0.951	0.000	0.000
WWRVP	1330	US	NEW YORK	NY	993.0	B	1012.9	49.2	230.6	118.1	6.0	11.3	116.5	0.040775	0.950	0.000	0.000
WTIF	1340	US	TIFTON	GA	389.0	C	437.4	44.3	14.4	305.8	19.4	30.7	281.3	0.163485	0.920	0.000	0.000
WMON	1340	US	MONTGOMERY	WV	382.4	C	431.6	47.7	195.4	305.8	19.8	31.1	280.2	0.163796	0.918	0.000	0.000
WCBQ	1340	US	OXFORD	NC	383.4	C	432.4	46.8	246.2	304.2	19.7	31.1	279.1	0.164378	0.918	0.000	0.000
WFEB	1340	US	SYLACAUGA	AL	397.8	C	445.2	45.0	60.9	307.4	19.0	30.1	283.2	0.159054	0.901	0.000	0.000
WKRM	1340	US	COLUMBIA	TN	429.0	C	473.3	46.2	99.9	309.0	17.6	28.1	287.8	0.144685	0.833	0.000	0.000
HRSW	1330	HO	TEGUCIGALPA		2361.0	C	2369.5	35.5	11.0	309.5	0.0	0.5	309.5	0.013279	0.822	0.000	0.000
WSPQ	1330	US	SPRINGVILLE	NY	909.3	B	931.0	49.9	202.1	83.4	6.9	12.7	88.6	0.046243	0.819	0.000	0.000
WLSG	1340	US	WILMINGTON	NC	415.0	C	460.7	45.8	280.9	289.2	18.2	29.0	270.2	0.150908	0.815	0.000	0.000

Exhibit IV - Page 6
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES

SEPTEMBER 24, 2013 CDBS

WJSS Havre de Grace, MD
 Coordinates : 39-33-55.0 N 76-07-08.0 W
 Frequency : 1330
 Initial PWR: 0.500
 Initial Inv Field: 249.45 mV/M RMS

SITE INFO																	
CALL	FRQ	COUNTRY	CITY	ST	DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50%	RSS LIMIT 25%
WWRV	1330	US	NEW YORK	NY	232.1	B	306.4	51.7	230.5	138.2	31.3	45.3	100.9	0.258480	5.218	5.218	5.218
WFNN	1330	US	ERIE	PA	425.6	B	470.2	52.1	128.1	210.8	17.7	28.4	189.0	0.134287	5.077	7.280	7.280
WWRV	1330	US	NEW YORK	NY	228.0	B	303.3	51.6	232.1	137.3	31.7	45.8	88.5	0.262379	4.644	8.635	8.635
WSPQ	1330	US	SPRINGVILLE	NY	390.7	B	438.9	52.4	145.7	153.9	19.3	30.6	137.6	0.148640	4.090	0.000	9.555
WYRD	1330	US	GREENVILLE	SC	765.0	B	790.7	48.5	45.0	326.5	8.9	15.6	305.0	0.063264	3.859	0.000	10.305
WFNN	1330	US	ERIE	PA	425.6	B	470.2	52.1	128.1	94.3	17.7	28.4	84.5	0.134287	2.270	0.000	0.000
WTRX	1330	US	FLINT	MI	734.2	B	761.0	52.6	118.5	160.5	9.4	16.4	147.9	0.059781	1.769	0.000	0.000
KWLO	1330	US	WATERLOO	IA	1390.1	B	1404.4	52.3	98.0	433.6	2.8	6.6	430.0	0.019353	1.664	0.000	0.000
WJAS	1320	US	PITTSBURGH	PA	337.8	B	392.6	51.4	106.3	442.4	22.3	34.5	421.4	0.179941	1.517	0.000	0.000
WVHI	1330	US	EVANSVILLE	IN	1007.6	B	1027.2	50.1	76.8	195.8	5.9	11.1	195.2	0.038650	1.509	0.000	0.000
WJNX	1330	US	FORT PIERCE	FL	1402.3	B	1416.5	44.8	15.2	291.6	2.7	6.5	291.2	0.025522	1.486	0.000	0.000
YVTU	1330	VE	LAGUNILLAS		3303.9	B	3309.9	36.3	352.4	978.6	0.0	0.0	978.6	0.006915	1.353	0.000	0.000
WEPM	1340	US	MARTINSBURG	WV	160.6	C	256.5	50.9	85.4	305.8	41.5	55.7	195.1	0.335827	1.310	0.000	0.000
CKLD	1330	CA	THETFORD MINES	QC	818.9	B	842.9	54.3	209.7	147.7	8.1	14.4	142.0	0.046130	1.310	0.000	0.000
WWPA	1340	US	WILLIAMSPORT	PA	199.9	C	282.7	51.8	157.5	289.7	35.3	49.6	215.7	0.289838	1.250	0.000	0.000
WTRN	1340	US	TYRONE	PA	218.9	C	296.5	51.5	123.2	285.8	32.8	47.0	228.2	0.271608	1.240	0.000	0.000
WYCK	1340	US	PLAINS	PA	189.0	C	275.2	51.8	187.6	273.6	36.9	51.2	201.7	0.301266	1.215	0.000	0.000
WBTM	1330	US	DANVILLE	VA	438.4	B	481.9	49.4	40.4	46.1	17.2	27.6	43.4	0.136095	1.181	0.000	0.000
WHAP	1340	US	HOPEWELL	VA	272.9	C	338.3	49.8	22.0	299.3	27.2	40.6	255.2	0.228711	1.167	0.000	0.000
KNSS	1330	US	WICHITA	KS	1842.1	B	1852.9	50.0	77.0	431.5	0.3	3.2	431.5	0.012652	1.092	0.000	0.000
WALL	1340	US	MIDDLETOWN	NY	253.7	C	323.1	51.9	214.6	307.4	29.0	42.7	221.6	0.238321	1.056	0.000	0.000
WHAT	1340	US	PHILADELPHIA	PA	91.6	C	220.0	51.2	238.3	320.3	57.3	68.8	124.4	0.414717	1.032	0.000	0.000
WVCV	1340	US	ORANGE	VA	226.4	C	302.1	50.3	49.3	305.8	31.9	46.0	183.4	0.267897	0.983	0.000	0.000
WRCA	1330	US	WATERTOWN	MA	512.9	B	550.5	52.4	235.5	53.5	14.5	23.8	46.9	0.103626	0.973	0.000	0.000
WRAW	1340	US	READING	PA	86.1	C	217.7	51.3	191.5	241.4	58.9	70.0	111.5	0.420180	0.937	0.000	0.000
WKEY	1340	US	COVINGTON	VA	390.6	C	438.8	50.0	58.0	354.1	19.3	30.6	300.2	0.155498	0.934	0.000	0.000
WYBC	1340	US	NEW HAVEN	CT	329.6	C	385.5	51.9	235.4	269.7	22.8	35.2	246.8	0.183295	0.905	0.000	0.000
WHBL	1330	US	SHEBOYGAN	WI	1068.7	B	1087.2	52.9	111.6	145.1	5.3	10.2	143.6	0.030763	0.883	0.000	0.000
WMID	1340	US	ATLANTIC CITY	NJ	144.6	C	246.8	50.9	278.9	346.3	44.5	58.5	123.9	0.354398	0.879	0.000	0.000
WWLF	1340	US	AUBURN	NY	378.5	C	428.1	52.6	173.9	312.2	20.0	31.4	283.8	0.153637	0.872	0.000	0.000
YVPJ	1330	VE	RUBIO		3563.0	C	3568.6	35.1	354.5	692.0	0.0	0.0	692.0	0.006283	0.870	0.000	0.000
YVOY	1330	VE	CALABOZO		3513.5	C	3519.2	35.8	347.3	692.0	0.0	0.0	692.0	0.006279	0.869	0.000	0.000
WBRK	1340	US	PITTSFIELD	MA	402.7	C	449.6	52.4	218.2	346.0	18.8	29.8	301.5	0.142948	0.862	0.000	0.000
HJNR	1330	CO	S GIL 1		3684.8	C	3690.2	34.5	355.8	692.0	0.0	0.0	692.0	0.006024	0.834	0.000	0.000
WCBQ	1340	US	OXFORD	NC	421.4	C	466.5	49.3	30.0	304.2	17.9	28.6	283.4	0.143264	0.812	0.000	0.000
WATR	1320	US	WATERBURY	CT	340.7	B	395.0	52.0	231.0	271.5	22.1	34.3	227.9	0.176245	0.803	0.000	0.000
WOOW	1340	US	GREENVILLE	NC	452.7	C	494.9	49.0	13.7	305.8	16.6	26.8	287.4	0.131605	0.756	0.000	0.000
WGOT	1320	US	GETTYSBURG	PA	99.4	B	223.3	51.1	107.7	366.9	55.2	67.2	90.7	0.406462	0.737	0.000	0.000
WPOL	1340	US	WINSTON-SALEM	NC	531.5	C	567.9	49.2	41.9	384.6	14.0	23.0	338.2	0.106160	0.718	0.000	0.000
WMON	1340	US	MONTGOMERY	WV	475.4	C	515.7	50.2	69.4	305.8	15.8	25.6	289.2	0.121043	0.700	0.000	0.000
WXKX	1340	US	CLARKSBURG	WV	361.7	C	413.3	50.8	83.8	384.6	20.9	32.6	206.8	0.168204	0.696	0.000	0.000
WLVL	1340	US	LOCKPORT	NY	455.8	C	497.8	52.7	150.8	304.2	16.5	26.6	286.6	0.120814	0.693	0.000	0.000
WENT	1340	US	GLOVERSVILLE	NY	411.9	C	457.9	52.7	201.6	268.8	18.3	29.2	249.6	0.137993	0.689	0.000	0.000
WCMI	1340	US	ASHLAND	KY	572.6	C	606.6	50.3	75.7	405.8	12.8	21.4	357.4	0.093425	0.668	0.000	0.000

Exhibit IV - Page 7
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES
SEPTEMBER 24, 2013 CDBS

WVHI Evansville, IN
Coordinates : 38-03-12.0 N 87-35-40.0 W
Frequency : 1330
Initial PWR: 1.000
Initial Inv Field: 321.87 mV/M RMS

SITE INFO		CITY	ST	DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50%	RSS LIMIT 25%
CALL	FRQ															
WYRD	1330	US	GREENVILLE	SC	583.2	B	616.5	47.5	309.1	351.0	12.5	21.0	309.5	0.095988	5.942	5.942
KNSS	1330	US	WICHITA	KS	847.5	B	870.8	48.4	84.5	389.7	7.7	13.8	349.2	0.054129	3.780	7.043
KVOL	1330	US	LAFAYETTE	LA	960.4	B	981.0	44.8	24.1	292.1	6.4	11.8	282.7	0.047702	2.697	7.541
WFNN	1330	US	ERIE	PA	778.4	B	803.7	51.1	238.3	222.9	8.7	15.3	219.0	0.057319	2.511	7.948
WKLO	1330	US	WATERLOO	IA	630.6	B	661.5	50.9	139.5	155.9	11.4	19.3	155.7	0.080071	2.493	8.330
WHLB	1330	US	SHEBOYGAN	WI	630.2	B	661.2	51.6	178.9	164.3	11.4	19.3	152.7	0.078387	2.395	8.667
WWRV	1330	US	NEW YORK	NY	1205.3	B	1221.8	50.9	259.1	371.3	4.1	8.5	369.6	0.027289	2.017	0.000
WNIX	1330	US	GREENVILLE	MS	601.5	B	633.9	46.4	29.9	107.5	12.1	20.3	95.4	0.093237	1.779	0.000
WBIW	1340	US	BEDFORD	IN	133.4	C	240.4	49.3	227.2	304.2	46.9	60.5	184.2	0.370743	1.366	0.000
WSPQ	1330	US	SPRINGVILLE	NY	902.1	B	924.0	51.4	239.8	148.2	7.0	12.8	147.3	0.044416	1.309	0.000
WSOY	1340	US	DECATUR	IL	230.6	C	305.3	49.7	147.7	326.8	31.4	45.5	243.4	0.265321	1.292	0.000
YVTU	1330	VE	LAGUNILLAS	B	3503.2	B	3509.0	35.6	334.9	978.6	0.0	0.0	978.6	0.006351	1.243	0.000
WGOC	1320	US	KINGSPORT	TN	481.8	B	521.6	48.3	291.8	544.5	15.5	25.3	505.8	0.122625	1.240	0.000
WCVG	1320	US	COVINGTON	KY	290.1	B	352.4	49.5	248.6	342.3	25.7	38.8	283.7	0.216429	1.228	0.000
WCRM	1340	US	COLUMBIA	TN	275.8	C	340.7	47.6	350.2	309.0	26.9	40.3	261.4	0.230127	1.203	0.000
WJAS	1330	US	PITTSBURGH	PA	714.5	B	742.0	50.4	250.3	945.2	9.8	16.9	885.8	0.067121	1.189	0.000
WTRX	1320	US	FLINT	MI	640.4	B	670.9	51.4	212.7	89.3	11.2	19.0	75.1	0.076985	1.157	0.000
WEKY	1340	US	RICHMOND	KY	290.9	C	353.0	48.8	278.4	304.2	25.7	38.7	262.8	0.217122	1.141	0.000
WFNN	1330	US	ERIE	PA	778.4	B	803.7	51.1	238.3	99.7	8.7	15.3	97.9	0.057319	1.123	0.000
WXFN	1340	US	MUNCIE	IN	302.5	C	362.6	50.0	219.9	295.0	24.8	37.6	260.9	0.206461	1.077	0.000
WWRV	1330	US	NEW YORK	NY	1204.6	B	1221.1	50.8	259.5	185.8	4.1	8.5	184.3	0.027357	1.008	0.000
KSMO	1340	US	SALEM	MO	349.3	C	402.5	48.5	81.0	312.2	21.6	33.6	279.2	0.180064	1.006	0.000
XEFC	1330	MX	MERIDA	YC	1905.6	B	1916.1	40.3	5.4	303.2	0.0	2.8	303.2	0.016390	0.994	0.000
KWKW	1330	US	LOS ANGELES	CA	2787.8	B	2795.0	46.2	71.8	748.9	0.0	0.0	748.9	0.006543	0.980	0.000
WCDT	1340	US	WINCHESTER	TN	346.3	C	399.9	47.5	337.7	292.9	21.8	33.8	266.4	0.183253	0.976	0.000
WLOK	1340	US	MEMPHIS	TN	391.5	C	439.7	47.3	32.8	403.9	19.3	30.5	302.5	0.159920	0.967	0.000
WOBL	1320	US	OBERLIN	OH	582.9	B	616.3	50.7	233.9	559.7	12.6	21.0	530.0	0.090375	0.958	0.000
KLID	1340	US	POPLAR BLUFF	MO	283.7	C	347.1	48.1	58.9	241.4	26.3	39.5	213.8	0.223518	0.956	0.000
WSBM	1340	US	FLORENCE	AL	362.1	C	413.6	47.2	1.0	300.9	20.9	32.6	273.3	0.174850	0.956	0.000
WKGN	1340	US	KNOXVILLE	TN	397.3	C	444.8	47.9	307.0	354.1	19.0	30.1	301.9	0.156289	0.944	0.000
WBAC	1340	US	CLEVELAND	TN	403.6	C	450.5	47.5	323.5	354.1	18.7	29.7	303.4	0.154038	0.935	0.000
WKCB	1340	US	HINDMAN	KY	411.7	C	457.7	48.7	282.7	394.3	18.3	29.2	304.5	0.148635	0.905	0.000
WIZE	1340	US	SPRINGFIELD	OH	390.2	C	438.5	49.9	238.6	310.6	19.4	30.6	284.0	0.155851	0.885	0.000
WJPF	1340	US	HERRIN	IL	128.0	C	237.5	48.7	78.6	307.8	48.1	61.5	116.5	0.377651	0.880	0.000
WCMI	1340	US	ASHLAND	KY	438.6	C	482.1	49.2	265.5	405.8	17.2	27.6	322.4	0.136412	0.880	0.000
WTRC	1340	US	ELKHART	IN	426.4	C	471.0	50.7	199.8	405.6	17.7	28.3	318.4	0.137996	0.879	0.000
KXEO	1340	US	MEXICO	MO	390.8	C	439.0	49.2	107.1	303.5	19.3	30.6	277.9	0.157053	0.873	0.000
WILS	1320	US	LANSING	MI	566.1	B	600.3	51.2	207.2	487.8	13.0	21.6	449.7	0.092955	0.836	0.000
YVPJ	1330	VE	RUBIO		3707.6	C	3713.0	34.4	337.8	692.0	0.0	0.0	692.0	0.005984	0.828	0.000
HJNR	1330	CO	S GIL 1		3796.3	C	3801.6	33.7	339.5	692.0	0.0	0.0	692.0	0.005851	0.810	0.000
WBGH	1340	US	BOWLING GREEN	KY	153.6	C	252.2	48.4	319.4	421.6	42.8	56.9	114.5	0.348212	0.798	0.000
KROS	1340	US	CLINTON	IA	478.1	C	518.2	50.6	151.4	397.5	15.7	25.5	331.9	0.119109	0.791	0.000
KBTA	1340	US	BATESVILLE	AR	441.8	C	484.9	47.5	53.3	304.0	17.0	27.4	285.1	0.138069	0.787	0.000

Exhibit IV - Page 8
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES
SEPTEMBER 24, 2013 CDBS

WFNN Erie, PA
Coordinates : 41-59-32.0 N 80-01-44.0 W
Frequency : 1330
Initial PWR: 1.000
Initial Inv Field: 354.10 mV/M RMS

SITE INFO																	
CALL	FRQ	COUNTRY	CITY	ST	DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50%	RSS LIMIT 25%
WSPQ	1330	US	SPRINGVILLE	NY	124.0	B	235.3	53.5	243.5	155.0	49.0	62.3	83.1	0.368620	6.125	6.125	6.125
WYRD	1330	US	GREENVILLE	SC	820.4	B	844.4	49.6	14.0	513.3	8.1	14.4	524.2	0.055160	5.783	8.424	8.424
WJSS	1330	US	HAVRE DE GRACE	MD	425.6	B	470.2	52.1	310.6	177.8	17.7	28.4	137.7	0.134287	3.698	0.000	9.200
WJAS	1320	US	PITTSBURGH	PA	168.5	B	261.5	52.5	356.5	1041.2	40.1	54.4	457.0	0.321345	2.937	0.000	9.657
WWRVL	1330	US	NEW YORK	NY	514.2	B	551.7	52.9	285.5	134.6	14.5	23.8	137.6	0.101907	2.804	0.000	10.056
WTRX	1330	US	FLINT	MI	316.3	B	374.2	53.6	108.9	140.4	23.8	36.4	74.5	0.184790	2.753	0.000	10.426
WWRVP	1330	US	NEW YORK	NY	516.8	B	554.2	52.8	286.3	135.1	14.4	23.6	123.6	0.101255	2.504	0.000	0.000
WRCA	1330	US	WATERTOWN	MA	729.2	B	756.1	53.6	270.4	179.5	9.5	16.5	170.0	0.057909	1.969	0.000	0.000
CKLD	1330	CA	THETFORD MINES	QC	825.2	B	849.1	55.5	239.8	230.5	8.0	14.3	223.9	0.042516	1.904	0.000	0.000
WHBL	1330	US	SHEBOYGAN	WI	656.5	B	686.3	53.9	104.4	136.9	10.9	18.5	131.2	0.067743	1.777	0.000	0.000
KWLO	1330	US	WATERLOO	IA	1007.9	B	1027.6	53.3	88.9	277.1	5.9	11.1	262.3	0.033650	1.765	0.000	0.000
KNSS	1330	US	WICHITA	KS	1541.6	B	1554.5	50.8	66.6	446.1	1.9	5.3	443.6	0.017176	1.524	0.000	0.000
CJMR	1320	CA	MISSISSAUGA	ON	164.5	B	259.0	54.0	187.9	134.8	40.8	55.1	221.7	0.318819	1.413	0.000	0.000
CKDK	1340	CA	WOODSTOCK	ON	137.6	C	242.8	53.8	153.8	297.7	46.0	59.8	196.7	0.351244	1.382	0.000	0.000
WLVL	1340	US	LOCKPORT	NY	170.1	C	262.6	53.9	219.8	304.2	39.8	54.2	213.5	0.313099	1.337	0.000	0.000
WTRN	1340	US	TYRONE	PA	209.1	C	289.3	52.6	315.5	285.8	34.1	48.3	224.2	0.277196	1.243	0.000	0.000
WBTM	1330	US	DANVILLE	VA	600.9	B	633.3	50.6	355.3	64.5	12.1	20.3	67.3	0.086683	1.166	0.000	0.000
WWPA	1340	US	WILLIAMSPORT	PA	264.7	C	331.8	52.9	289.7	289.7	27.9	41.5	241.0	0.225321	1.086	0.000	0.000
YVTU	1330	VE	LAGUNILLAS		3640.6	B	3646.1	37.6	347.9	978.6	0.0	0.0	978.6	0.005415	1.060	0.000	0.000
WWLF	1340	US	AUBURN	NY	301.9	C	362.1	53.8	250.5	312.2	24.8	37.7	269.4	0.193685	1.044	0.000	0.000
WEPM	1340	US	MARTINSBURG	WV	329.6	C	385.6	52.0	329.2	305.8	22.8	35.2	266.9	0.182781	0.976	0.000	0.000
WEXL	1340	US	ROYAL OAK	MI	259.5	C	327.6	53.4	100.8	424.9	28.4	42.0	208.5	0.227465	0.949	0.000	0.000
WOUB	1340	US	ATHENS	OH	343.4	C	397.4	51.9	29.8	286.5	22.0	34.1	260.1	0.175141	0.911	0.000	0.000
WIZE	1340	US	SPRINGFIELD	OH	389.2	C	437.5	52.1	52.9	310.6	19.4	30.7	283.8	0.150243	0.853	0.000	0.000
WCMI	1340	US	ASHLAND	KY	448.4	C	491.0	51.4	28.3	405.8	16.8	27.0	325.9	0.127509	0.831	0.000	0.000
WYCK	1340	US	PLAINS	PA	358.9	C	410.9	53.0	284.7	273.6	21.0	32.8	248.0	0.162498	0.806	0.000	0.000
WNCO	1340	US	ASHLAND	OH	232.6	C	306.7	52.6	55.8	339.6	31.2	45.2	155.8	0.254534	0.793	0.000	0.000
KVOL	1330	US	LAFAYETTE	LA	1691.7	B	1703.5	47.1	36.2	230.2	1.0	4.2	229.9	0.016980	0.781	0.000	0.000
WLEW	1340	US	BAD AXE	MI	316.0	C	374.0	54.1	128.5	241.4	23.8	36.4	210.4	0.183023	0.770	0.000	0.000
WKEY	1340	US	COVINGTON	VA	469.7	C	510.5	51.1	359.6	354.1	16.0	25.9	316.3	0.120696	0.764	0.000	0.000
WMON	1340	US	MONTGOMERY	WV	438.0	C	481.5	51.3	14.0	305.8	17.2	27.6	286.2	0.131786	0.754	0.000	0.000
WTRC	1340	US	ELKHART	IN	491.5	C	530.6	53.0	83.9	405.6	15.2	24.8	339.4	0.108280	0.735	0.000	0.000
WJRW	1340	US	GRAND RAPIDS	MI	476.9	C	517.2	53.6	101.0	373.4	15.7	25.5	325.6	0.110687	0.721	0.000	0.000
WHAT	1340	US	PHILADELPHIA	PA	460.9	C	502.4	52.4	300.3	320.3	16.3	26.4	296.8	0.120191	0.714	0.000	0.000
YVPJ	1330	VE	RUBIO		3887.3	C	3892.4	36.3	350.0	692.0	0.0	0.0	692.0	0.005027	0.696	0.000	0.000
WVCV	1340	US	ORANGE	VA	446.1	C	488.9	51.4	339.3	305.8	16.9	27.2	265.1	0.128362	0.681	0.000	0.000
YVOY	1330	VE	CALABOZO		3876.7	C	3881.8	37.1	343.6	692.0	0.0	0.0	692.0	0.004886	0.676	0.000	0.000
WYCB	1340	US	WASHINGTON	DC	423.5	C	468.4	51.8	323.8	290.0	17.8	28.5	248.1	0.136122	0.675	0.000	0.000
HJNR	1330	CO	S GIL 1		4000.9	C	4005.9	35.7	351.2	692.0	0.0	0.0	692.0	0.004872	0.674	0.000	0.000
WRAW	1340	US	READING	PA	390.7	C	438.9	52.5	299.7	241.4	19.3	30.6	224.1	0.148222	0.664	0.000	0.000
WALL	1340	US	MIDDLETOWN	NY	467.5	C	508.5	53.1	279.2	307.4	16.1	26.0	277.8	0.115479	0.642	0.000	0.000
WKCB	1340	US	HINDMAN	KY	577.5	C	611.2	50.8	25.2	394.3	12.7	21.2	348.9	0.091193	0.636	0.000	0.000

Exhibit IV - Page 9
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES
SEPTEMBER 24, 2013 CDBS

WTRX Flint, MI
Coordinates : 42-58-24.0 N 83-39-02.0 W
Frequency : 1330
Initial PWR: 1.000
Initial Inv Field: 346.01 mV/M RMS

SITE INFO																	
CALL	FRQ	COUNTRY	CITY	ST	DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50%	RSS LIMIT 25%
WYRD	1330	US	GREENVILLE	SC	908.8	B	930.5	50.0	353.7	448.4	7.0	12.7	464.0	0.046141	4.282	4.282	4.282
WHBL	1330	US	SHEBOYGAN	WI	340.4	B	394.8	54.3	102.7	137.1	22.1	34.3	115.2	0.167278	3.854	5.761	5.761
WFNN	1330	US	ERIE	PA	316.3	B	374.2	53.6	291.4	75.3	23.8	36.4	63.5	0.184790	2.348	0.000	6.221
WSPQ	1330	US	SPRINGVILLE	NY	408.8	B	455.1	53.9	279.1	99.2	18.5	29.4	86.4	0.134729	2.329	0.000	6.643
WVHI	1330	US	EVANSVILLE	IN	640.4	B	670.9	51.4	30.1	164.4	11.2	19.0	142.3	0.076985	2.190	0.000	6.995
KWLO	1330	US	WATERLOO	IA	705.7	B	733.5	53.5	82.5	193.4	9.9	17.1	165.2	0.061365	2.028	0.000	7.283
KNSS	1330	US	WICHITA	KS	1290.0	B	1305.4	51.1	58.8	421.8	3.5	7.6	413.4	0.023879	1.974	0.000	7.545
WILS	1320	US	LANSING	MI	90.0	B	219.3	53.8	63.9	375.1	57.8	69.2	239.0	0.405930	1.941	0.000	7.791
WJSS	1330	US	HAVRE DE GRACE	MD	734.2	B	761.0	52.6	303.5	156.8	9.4	16.4	145.7	0.059781	1.742	0.000	0.000
WWRVL	1330	US	NEW YORK	NY	827.6	B	851.4	53.3	289.3	152.5	8.0	14.2	144.0	0.047448	1.367	0.000	0.000
WWRVP	1330	US	NEW YORK	NY	830.7	B	854.4	53.3	289.7	141.7	8.0	14.2	134.9	0.047216	1.274	0.000	0.000
CKDK	1340	CA	WOODSTOCK	ON	235.0	C	308.6	54.2	267.4	297.7	31.0	44.9	248.8	0.244938	1.219	0.000	0.000
CKLD	1330	CA	THETFORD MINES	QC	1029.8	B	1049.0	56.0	254.9	226.5	5.6	10.7	223.8	0.027210	1.218	0.000	0.000
WMTE	1340	US	MANISTEE	MI	256.5	C	325.3	54.6	122.2	310.6	28.7	42.4	254.9	0.224162	1.143	0.000	0.000
WRCA	1330	US	WATERTOWN	MA	1021.2	B	1040.6	54.1	278.5	177.3	5.7	10.9	175.5	0.031276	1.098	0.000	0.000
KVOL	1330	US	LAFAYETTE	LA	1600.1	B	1612.6	47.4	25.5	287.2	1.5	4.9	286.7	0.018642	1.069	0.000	0.000
CJMR	1320	CA	MISSISSAUGA	ON	320.2	B	377.5	54.4	261.6	160.5	23.5	36.0	290.8	0.178892	1.041	0.000	0.000
WIZE	1340	US	SPRINGFIELD	OH	337.2	C	392.0	52.5	1.9	310.6	22.4	34.6	275.6	0.176548	0.973	0.000	0.000
WJRW	1340	US	GRAND RAPIDS	MI	166.6	C	260.3	53.9	88.5	373.4	40.4	54.7	148.8	0.316549	0.942	0.000	0.000
WTRC	1340	US	ELKHART	IN	237.7	C	310.6	53.3	51.8	405.6	30.7	44.6	189.0	0.246848	0.933	0.000	0.000
YVTU	1330	VE	LAGUNILLAS		3840.5	B	3845.7	38.1	343.9	978.6	0.0	0.0	978.6	0.004740	0.928	0.000	0.000
WXFN	1340	US	MUNCIE	IN	344.0	C	397.9	52.6	24.1	295.0	21.9	34.0	268.0	0.172321	0.924	0.000	0.000
WLEW	1340	US	BAD AXE	MI	105.0	C	225.9	54.4	209.1	241.4	53.6	66.0	117.3	0.385441	0.905	0.000	0.000
WMBN	1340	US	PETOSKEY	MI	284.0	C	347.4	55.2	157.8	426.5	26.2	39.4	211.6	0.199365	0.844	0.000	0.000
WNCO	1340	US	ASHLAND	OH	260.2	C	328.2	53.0	336.1	339.6	28.4	42.0	180.2	0.228752	0.824	0.000	0.000
WJYI	1340	US	MILWAUKEE	WI	352.1	C	405.0	53.9	89.9	441.0	21.4	33.4	246.5	0.162273	0.800	0.000	0.000
CKNR	1340	CA	ELLIOT LAKE	ON	387.0	C	435.6	55.7	192.4	313.8	19.5	30.8	286.6	0.136133	0.780	0.000	0.000
WLVL	1340	US	LOCKPORT	NY	401.7	C	448.8	54.3	268.5	304.2	18.8	29.8	281.5	0.136370	0.768	0.000	0.000
WCMI	1340	US	ASHLAND	KY	508.8	C	546.7	51.8	350.3	405.8	14.6	24.0	343.6	0.106538	0.732	0.000	0.000
WOUB	1340	US	ATHENS	OH	425.6	C	470.3	52.2	342.7	286.5	17.7	28.3	269.1	0.133859	0.720	0.000	0.000
WJOL	1340	US	JOLIET	IL	396.0	C	443.7	53.2	64.7	305.8	19.1	30.2	251.0	0.143394	0.720	0.000	0.000
WOBL	1320	US	OBERLIN	OH	223.7	B	300.1	53.2	328.4	177.7	32.3	46.4	137.0	0.260270	0.713	0.000	0.000
WLWL	1330	US	MINNEAPOLIS	MN	801.9	B	826.5	54.7	101.1	78.0	8.4	14.8	75.8	0.046899	0.711	0.000	0.000
KWKW	1330	US	LOS ANGELES	CA	3153.0	B	3159.3	49.1	61.3	842.5	0.0	0.0	842.5	0.004194	0.707	0.000	0.000
WJAS	1320	US	PITTSBURGH	PA	416.5	B	462.1	52.9	313.0	282.5	18.1	28.9	259.6	0.135431	0.703	0.000	0.000
KROS	1340	US	CLINTON	IA	551.9	C	587.0	53.3	74.8	397.5	13.4	22.2	348.8	0.090736	0.633	0.000	0.000
WKKX	1340	US	CLARKSBURG	WV	495.5	C	534.3	52.3	326.8	384.6	15.1	24.6	284.0	0.109103	0.620	0.000	0.000
WKSX	1340	US	JAMESTOWN	NY	372.6	C	422.8	53.7	286.5	224.3	20.3	31.8	203.3	0.152396	0.620	0.000	0.000
YVPJ	1330	VE	RUBIO		4075.1	C	4080.0	36.8	346.1	692.0	0.0	0.0	692.0	0.004464	0.618	0.000	0.000
WBIW	1340	US	BEDFORD	IN	513.9	C	551.4	51.9	26.6	304.2	14.5	23.8	290.4	0.104838	0.609	0.000	0.000
WAGN	1340	US	MENOMINEE	MI	395.2	C	443.0	55.0	125.5	241.4	19.1	30.3	222.7	0.136205	0.607	0.000	0.000
WNIX	1330	US	GREENVILLE	MS	1241.7	B	1257.7	49.0	29.0	110.0	3.8	8.1	108.7	0.027878	0.606	0.000	0.000
HJNR	1330	CO	S GIL 1		4181.0	C	4185.8	36.2	347.3	692.0	0.0	0.0	692.0	0.004358	0.603	0.000	0.000

Exhibit IV - Page 10
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES
SEPTEMBER 24, 2013 CDBS

WSPQ Springville, NY
 Coordinates : 42-29-53.0 N 78-41-10.0 W
 Frequency : 1330
 Initial PWR: 1.000
 Initial Inv Field: 329.84 mV/M RMS

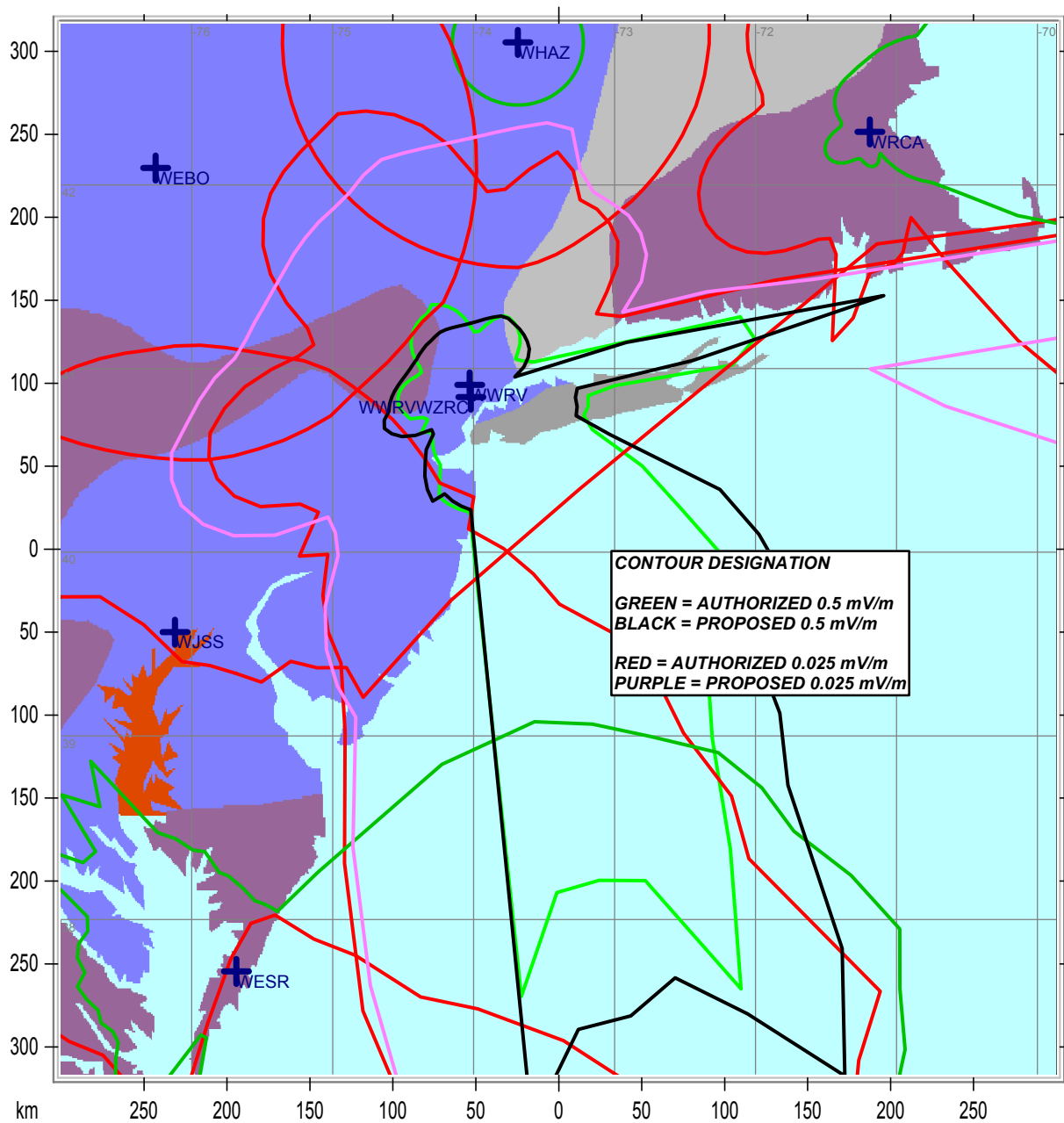
SITE INFO																	
CALL	FRQ	COUNTRY	CITY	ST	DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50%	RSS LIMIT 25%
WFNN	1330	US	ERIE	PA	124.0	B	235.3	53.5	62.6	510.7	49.0	62.3	84.0	0.368620	6.196	6.196	6.196
WYRD	1330	US	GREENVILLE	SC	909.3	B	931.0	49.9	19.7	489.5	6.9	12.7	496.4	0.046243	4.591	7.711	7.711
WJSS	1330	US	HAVRE DE GRACE	MD	390.7	B	438.9	52.4	327.4	198.8	19.3	30.6	148.0	0.148640	4.399	8.877	8.877
WWRVL	1330	US	NEW YORK	NY	424.9	B	469.6	53.1	296.1	230.1	17.8	28.4	159.9	0.131209	4.197	0.000	9.819
WWRVP	1330	US	NEW YORK	NY	428.8	B	473.1	53.1	296.9	196.9	17.6	28.2	135.3	0.129765	3.512	0.000	10.428
WRCA	1330	US	WATERTOWN	MA	615.8	B	647.5	53.9	274.7	176.8	11.8	19.8	166.5	0.075136	2.502	0.000	0.000
CKLD	1330	CA	THETFORD MINES	QC	702.9	B	730.8	55.8	238.3	229.7	10.0	17.2	219.5	0.055407	2.433	0.000	0.000
WJAS	1320	US	PITTSBURGH	PA	246.3	B	317.2	52.8	23.9	578.2	29.7	43.6	463.3	0.241543	2.238	0.000	0.000
WTRX	1330	US	FLINT	MI	408.8	B	455.1	53.9	95.7	105.4	18.5	29.4	74.2	0.134729	1.999	0.000	0.000
WHBL	1330	US	SHEBOYGAN	WI	746.5	B	772.8	54.3	97.4	149.9	9.2	16.1	145.2	0.054093	1.570	0.000	0.000
CKDK	1340	CA	WOODSTOCK	ON	182.4	C	270.7	54.1	111.0	297.7	37.9	52.2	226.6	0.298305	1.352	0.000	0.000
WWLF	1340	US	AUBURN	NY	178.9	C	268.3	54.1	254.3	312.2	38.4	52.8	218.8	0.302143	1.322	0.000	0.000
KNSS	1330	US	WICHITA	KS	1661.6	B	1673.5	51.2	65.5	444.5	1.2	4.4	443.4	0.014517	1.287	0.000	0.000
WBTM	1330	US	DANVILLE	VA	658.1	B	687.8	50.8	5.4	84.8	10.9	18.5	83.9	0.075158	1.261	0.000	0.000
WTRN	1340	US	TYRONE	PA	207.1	C	287.9	52.9	350.2	285.8	34.3	48.6	223.3	0.278041	1.242	0.000	0.000
WWPA	1340	US	WILLIAMSPORT	PA	197.7	C	281.3	53.2	316.1	289.7	35.6	49.9	214.6	0.286273	1.229	0.000	0.000
KWLO	1330	US	WATERLOO	IA	1112.3	B	1130.1	53.6	85.2	229.4	4.9	9.6	220.6	0.027534	1.215	0.000	0.000
YVTU	1330	VE	LAGUNILLAS		3666.7	B	3672.1	37.8	349.9	978.6	0.0	0.0	978.6	0.005276	1.033	0.000	0.000
WYCK	1340	US	PLAINS	PA	274.4	C	339.6	53.2	301.3	273.6	27.1	40.4	232.5	0.216253	1.006	0.000	0.000
WLVL	1340	US	LOCKPORT	NY	75.3	C	213.7	54.1	178.5	304.2	62.2	72.3	119.3	0.419202	1.000	0.000	0.000
WEPM	1340	US	MARTINSBURG	WV	342.5	C	396.6	52.3	350.4	305.8	22.0	34.1	269.5	0.174156	0.939	0.000	0.000
WEXL	1340	US	ROYAL OAK	MI	363.1	C	414.5	53.7	88.0	424.9	20.8	32.5	294.5	0.157349	0.927	0.000	0.000
WHAT	1340	US	PHILADELPHIA	PA	401.8	C	448.8	52.6	314.8	320.3	18.8	29.8	289.5	0.142739	0.827	0.000	0.000
WALL	1340	US	MIDDLETOWN	NY	369.5	C	420.2	53.4	289.7	307.4	20.4	32.1	261.0	0.155378	0.811	0.000	0.000
WNCO	1340	US	ASHLAND	OH	356.2	C	408.5	52.9	57.6	339.6	21.2	33.0	240.5	0.164228	0.790	0.000	0.000
CJMR	1320	CA	MISSISSAUGA	ON	137.7	B	242.8	54.3	140.5	76.4	46.0	59.7	112.4	0.348437	0.783	0.000	0.000
WMSA	1340	US	MASSENA	NY	406.0	C	452.6	55.1	230.1	367.5	18.6	29.6	295.5	0.130948	0.774	0.000	0.000
WRWA	1340	US	READING	PA	334.1	C	389.4	52.8	317.2	241.4	22.6	34.8	218.1	0.177343	0.773	0.000	0.000
WENT	1340	US	GLOVERSVILLE	NY	358.5	C	410.5	54.2	262.1	268.8	21.1	32.9	243.7	0.157780	0.769	0.000	0.000
WBRK	1340	US	PITTSFIELD	MA	448.6	C	491.2	53.9	272.5	346.0	16.8	27.0	309.9	0.119234	0.739	0.000	0.000
WJNX	1330	US	FORT PIERCE	FL	1679.3	B	1691.2	46.2	4.8	196.7	1.1	4.3	196.7	0.017765	0.699	0.000	0.000
WXKX	1340	US	CLARKSBURG	WV	381.9	C	431.1	52.2	20.5	384.6	19.8	31.2	222.2	0.153594	0.683	0.000	0.000
WYCB	1340	US	WASHINGTON	DC	418.6	C	463.9	52.1	340.8	290.0	18.0	28.8	247.2	0.137343	0.679	0.000	0.000
YVPJ	1330	VE	RUBIO		3918.9	C	3924.0	36.6	351.9	692.0	0.0	0.0	692.0	0.004890	0.677	0.000	0.000
WOUB	1340	US	ATHENS	OH	453.8	C	495.9	52.1	38.0	286.5	16.6	26.7	271.2	0.123395	0.669	0.000	0.000
WMID	1340	US	ATLANTIC CITY	NJ	496.8	C	535.5	52.3	315.7	346.3	15.0	24.6	308.2	0.108570	0.669	0.000	0.000
WCMI	1340	US	ASHLAND	KY	556.8	C	591.7	51.7	35.2	405.8	13.2	22.0	354.4	0.093964	0.666	0.000	0.000
YVOY	1330	VE	CALABOZO		3890.1	C	3895.2	37.3	345.6	692.0	0.0	0.0	692.0	0.004799	0.664	0.000	0.000
HJNR	1330	CO	S GIL 1		4035.9	C	4040.9	36.0	353.1	692.0	0.0	0.0	692.0	0.004733	0.655	0.000	0.000
WVNR	1340	US	POULTNEY	VT	459.6	C	501.2	54.4	257.8	305.8	16.4	26.4	288.3	0.113321	0.653	0.000	0.000
KVOL	1330	US	LAFAYETTE	LA	1809.3	B	1820.3	47.5	37.5	220.6	0.5	3.4	220.6	0.014755	0.651	0.000	0.000
WKEY	1340	US	COVINGTON	VA	537.4	C	573.4	51.4	11.4	354.1	13.8	22.8	325.6	0.099655	0.649	0.000	0.000
WLEW	1340	US	BAD AXE	MI	380.4	C	429.8	54.4	110.9	241.4	19.9	31.3	219.3	0.145797	0.640	0.000	0.000

Exhibit IV - Page 11
RSS CALCULATIONS BASED ON INCLUSION OF WWRV
LICENSED AND PROPOSED FACILITIES
SEPTEMBER 24, 2013 CDBS

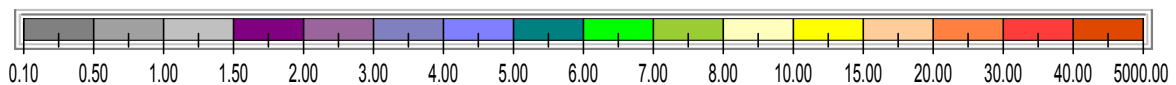
WWRV New York, NY
Coordinates : 40-50-42.0 N 74-01-12.0 W
Frequency : 1330
Initial PWR: 10.000
Initial Inv Field: 1236.35 mV/M RMS

SITE INFO																	
CALL	FRQ	COUNTRY	CITY	ST	DIST	CLASS	SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50%	RSS LIMIT 25%
WYRD	1330	US	GREENVILLE	SC	993.0	B	1012.9	49.2	45.4	329.7	6.0	11.3	319.1	0.040775	2.602	2.602	2.602
WJSS	1330	US	HAVRE DE GRACE	MD	228.0	B	303.3	51.6	50.7	20.8	31.7	45.8	33.1	0.262379	1.735	3.127	3.127
WRCA	1330	US	WATERTOWN	MA	285.0	B	348.1	53.0	236.7	58.1	26.2	39.3	38.2	0.209069	1.596	3.511	3.511
CKLD	1330	CA	THETFORD MINES	QC	618.0	B	649.5	54.9	201.0	99.0	11.7	19.7	92.9	0.071412	1.326	0.000	3.753
WSPQ	1330	US	SPRINGVILLE	NY	428.8	B	473.1	53.1	113.8	55.9	17.6	28.2	50.5	0.129765	1.311	0.000	3.976
WJNX	1330	US	FORT PIERCE	FL	1597.9	B	1610.4	45.5	19.7	328.5	1.5	4.9	328.3	0.019889	1.306	0.000	4.185
WFNN	1330	US	ERIE	PA	516.8	B	554.2	52.8	102.3	66.5	14.4	23.6	64.3	0.101255	1.302	0.000	4.383
WHAT	1340	US	PHILADELPHIA	PA	137.6	C	242.8	51.9	46.7	320.3	46.0	59.8	175.7	0.359652	1.264	0.000	4.561
YVTU	1330	VE	LAGUNILLAS		3421.7	B	3427.5	37.0	355.9	978.6	0.0	0.0	978.6	0.006287	1.230	0.000	4.724
WYCK	1340	US	PLAINS	PA	158.0	C	254.9	52.5	106.0	273.6	42.0	56.2	183.7	0.333459	1.225	0.000	4.880
WYBC	1340	US	NEW HAVEN	CT	102.3	C	224.7	52.5	241.3	269.7	54.4	66.6	152.5	0.398317	1.215	0.000	0.000
WBRK	1340	US	PITTSFIELD	MA	190.6	C	276.2	53.1	200.8	346.0	36.6	51.0	205.9	0.294321	1.212	0.000	0.000
WTRX	1330	US	FLINT	MI	830.7	B	854.4	53.3	103.3	128.3	8.0	14.2	120.5	0.047216	1.138	0.000	0.000
WWPA	1340	US	WILLIAMSPORT	PA	254.6	C	323.7	52.5	98.7	289.7	28.9	42.6	237.9	0.235634	1.121	0.000	0.000
WRAW	1340	US	READING	PA	170.5	C	262.8	52.0	69.5	241.4	39.8	54.1	174.4	0.320896	1.119	0.000	0.000
WGAW	1340	US	GARDNER	MA	257.2	C	325.8	53.2	221.6	283.2	28.6	42.3	240.1	0.230350	1.106	0.000	0.000
WENT	1340	US	GLOVERSVILLE	NY	243.9	C	315.4	53.4	173.4	268.8	30.0	43.9	220.2	0.240884	1.061	0.000	0.000
WVNR	1340	US	POULTNEY	VT	303.2	C	363.3	53.6	193.1	305.8	24.7	37.5	267.1	0.193518	1.034	0.000	0.000
WWLF	1340	US	AUBURN	NY	316.0	C	374.0	53.3	137.0	312.2	23.8	36.4	272.7	0.186375	1.017	0.000	0.000
WMID	1340	US	ATLANTIC CITY	NJ	167.4	C	260.8	51.6	12.5	346.3	40.3	54.6	149.5	0.326055	0.975	0.000	0.000
KWLO	1330	US	WATERLOO	IA	1523.4	B	1536.5	53.1	90.6	299.3	2.0	5.5	297.6	0.015347	0.913	0.000	0.000
WEPM	1340	US	MARTINSBURG	WV	370.4	C	420.9	51.6	64.2	305.8	20.4	32.0	274.4	0.161315	0.885	0.000	0.000
KNSS	1330	US	WICHITA	KS	2022.9	B	2032.8	50.8	72.8	443.8	0.0	2.2	443.8	0.009946	0.883	0.000	0.000
WTRN	1340	US	TYRONE	PA	357.4	C	409.5	52.2	85.4	285.8	21.1	33.0	260.7	0.166257	0.867	0.000	0.000
WYCB	1340	US	WASHINGTON	DC	330.0	C	385.9	51.3	49.5	290.0	22.8	35.2	224.5	0.184810	0.830	0.000	0.000
WATR	1320	US	WATERBURY	CT	113.0	B	229.7	52.6	227.4	293.3	51.6	64.4	104.7	0.385606	0.807	0.000	0.000
YVOY	1330	VE	CALABOZO		3607.6	C	3613.1	36.4	350.8	692.0	0.0	0.0	692.0	0.005808	0.804	0.000	0.000
YVPJ	1330	VE	RUBIO		3688.9	C	3694.3	35.7	357.6	692.0	0.0	0.0	692.0	0.005718	0.791	0.000	0.000
WVHI	1330	US	EVANSVILLE	IN	1204.6	B	1221.1	50.8	70.8	143.4	4.1	8.5	144.4	0.027357	0.790	0.000	0.000
HJNR	1330	CO	S GIL 1		3815.8	C	3821.1	35.2	358.8	692.0	0.0	0.0	692.0	0.005481	0.759	0.000	0.000
WBTM	1330	US	DANVILLE	VA	664.9	B	694.3	50.1	43.2	49.8	10.7	18.3	48.8	0.075394	0.736	0.000	0.000
WSTJ	1340	US	ST. JOHNSBURY	VT	430.4	C	474.6	54.1	203.3	305.8	17.5	28.1	285.3	0.125283	0.715	0.000	0.000
WMSA	1340	US	MASSENA	NY	456.6	C	498.5	54.3	170.8	367.5	16.5	26.6	309.9	0.114799	0.712	0.000	0.000
WHBL	1330	US	SHEBOYGAN	WI	1170.9	B	1187.9	53.7	101.1	139.0	4.4	8.9	138.1	0.024842	0.686	0.000	0.000
WVCV	1340	US	ORANGE	VA	454.4	C	496.5	51.0	49.4	305.8	16.5	26.7	266.5	0.126517	0.674	0.000	0.000

WWRV PROPOSED 1330 kHz 10 kW DA-2 U NEW YORK, NEW YORK

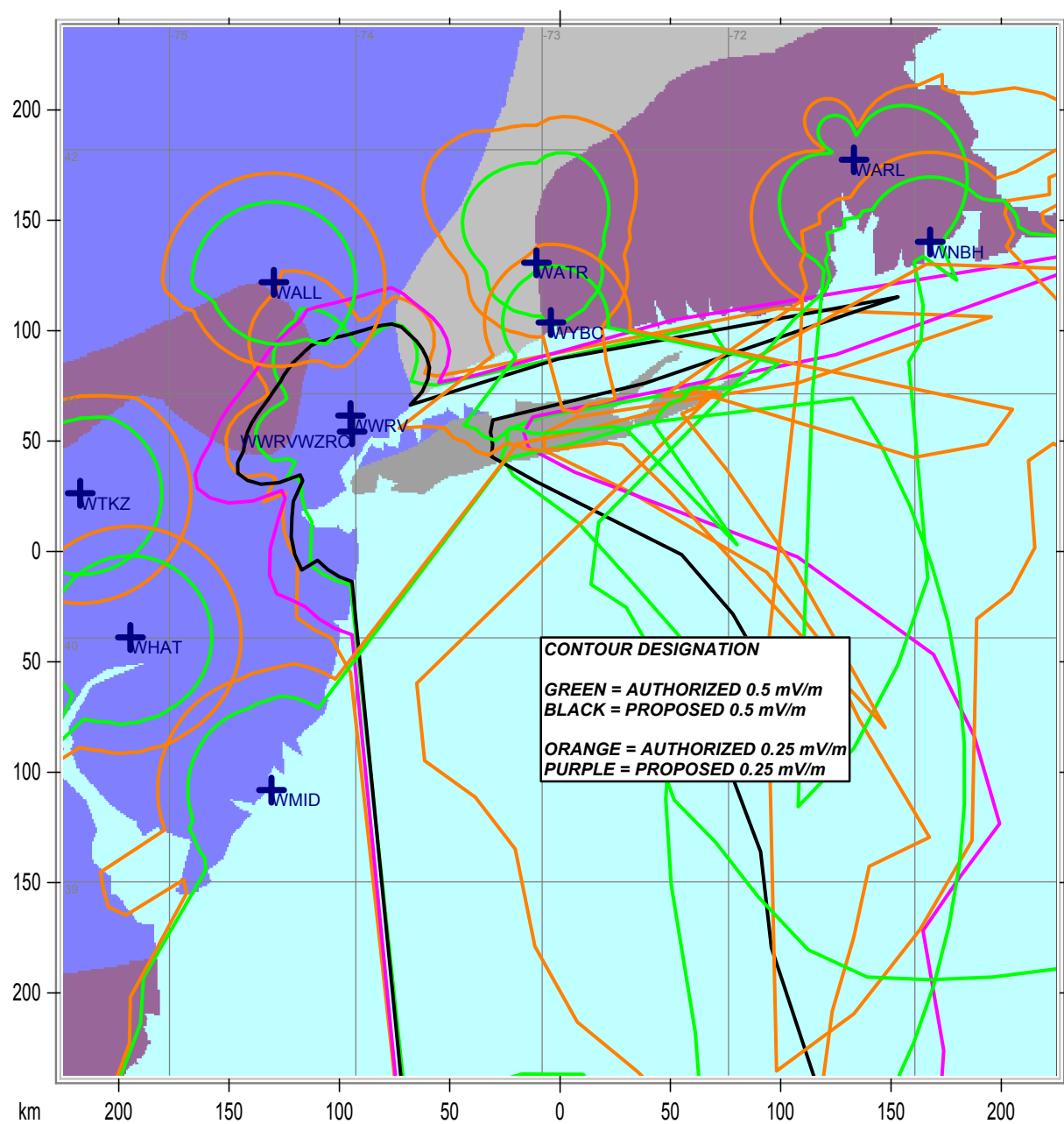


Communications Technologies, Inc. Marlton, New Jersey

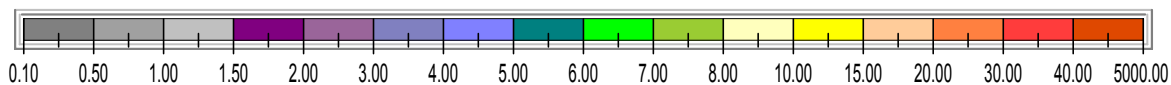


— Lat/Lon Grid

WWRV PROPOSED 1330 kHz 10 kW DA-2 U NEW YORK, NEW YORK

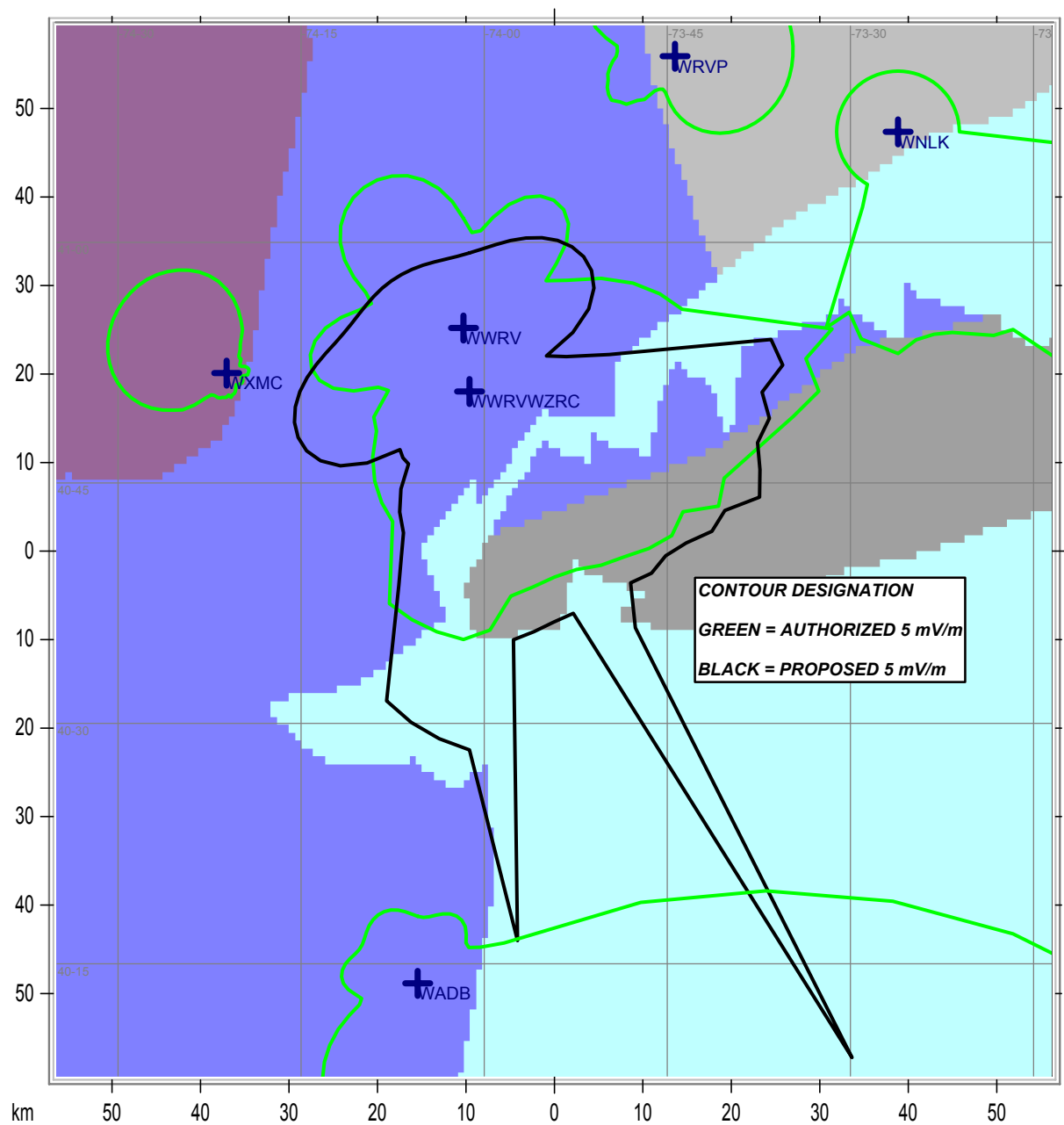


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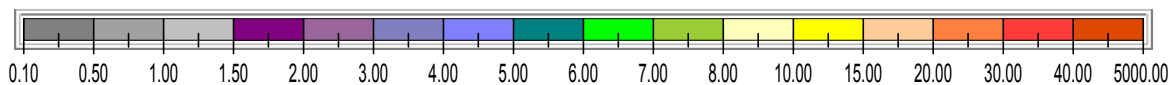


Lat/Lon Grid

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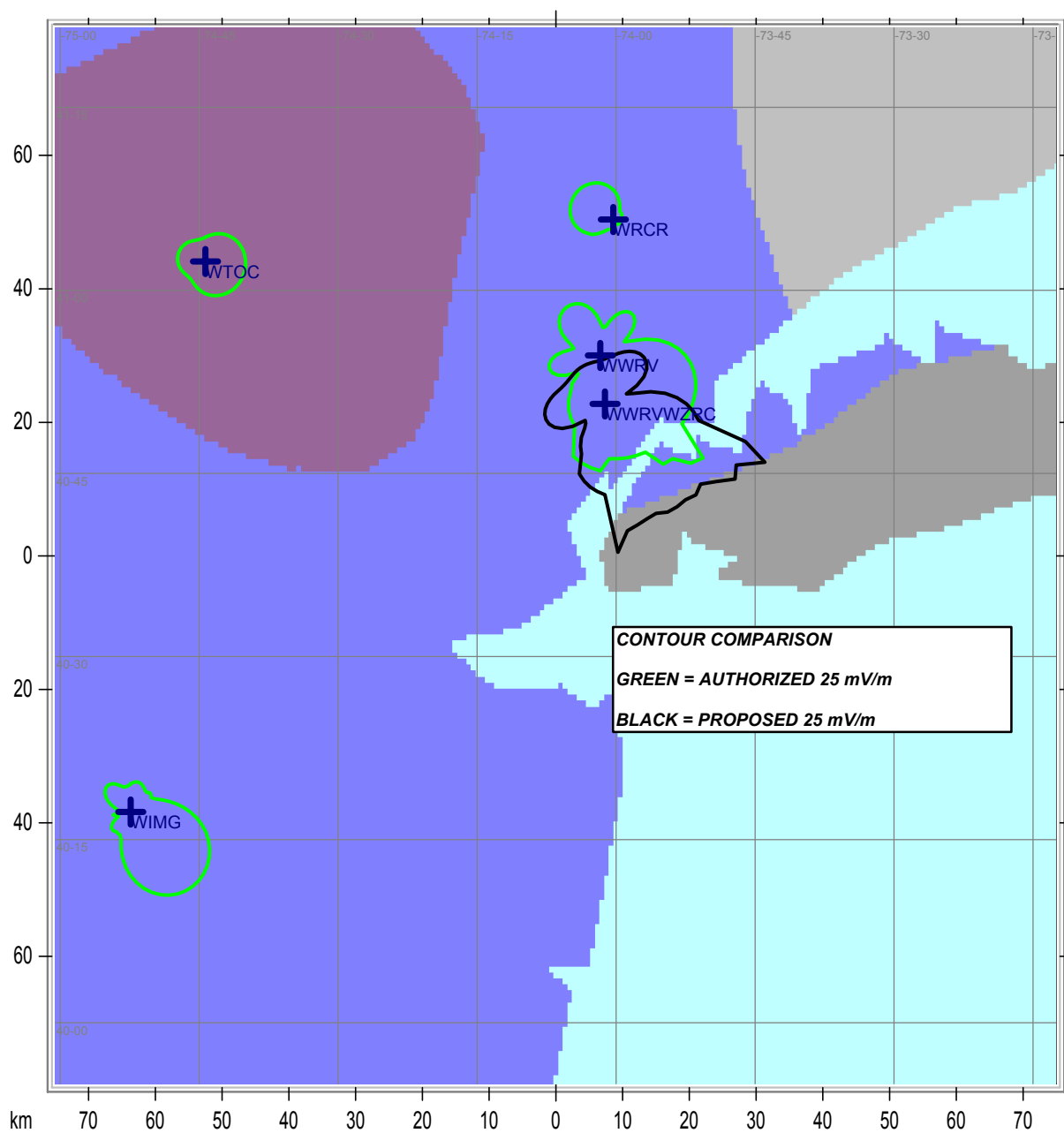


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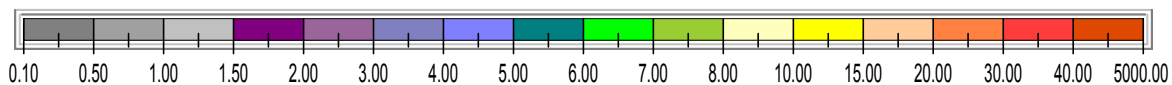


Lat/Lon Grid

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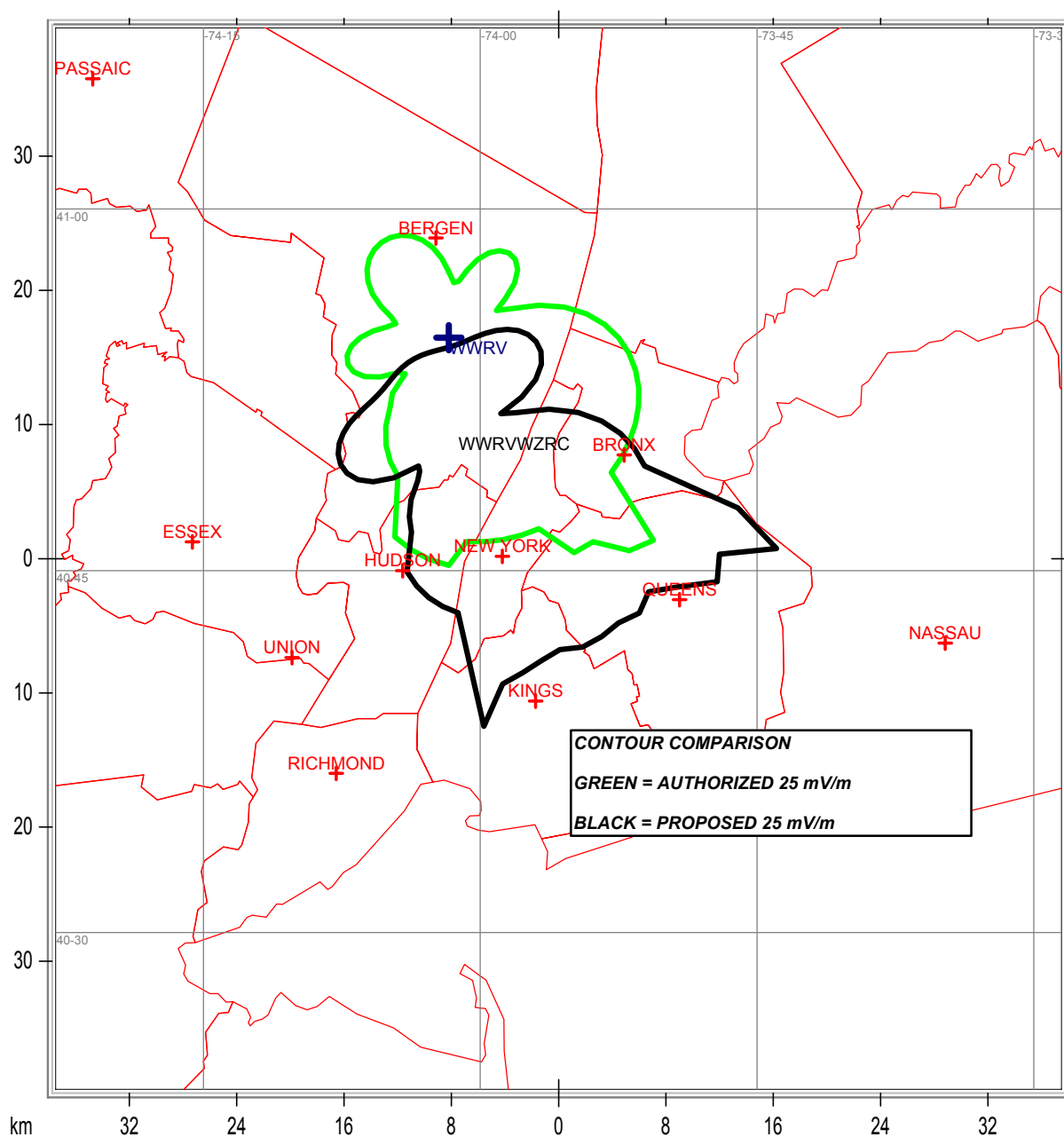


Communications Technologies, Inc. Marlton, New Jersey



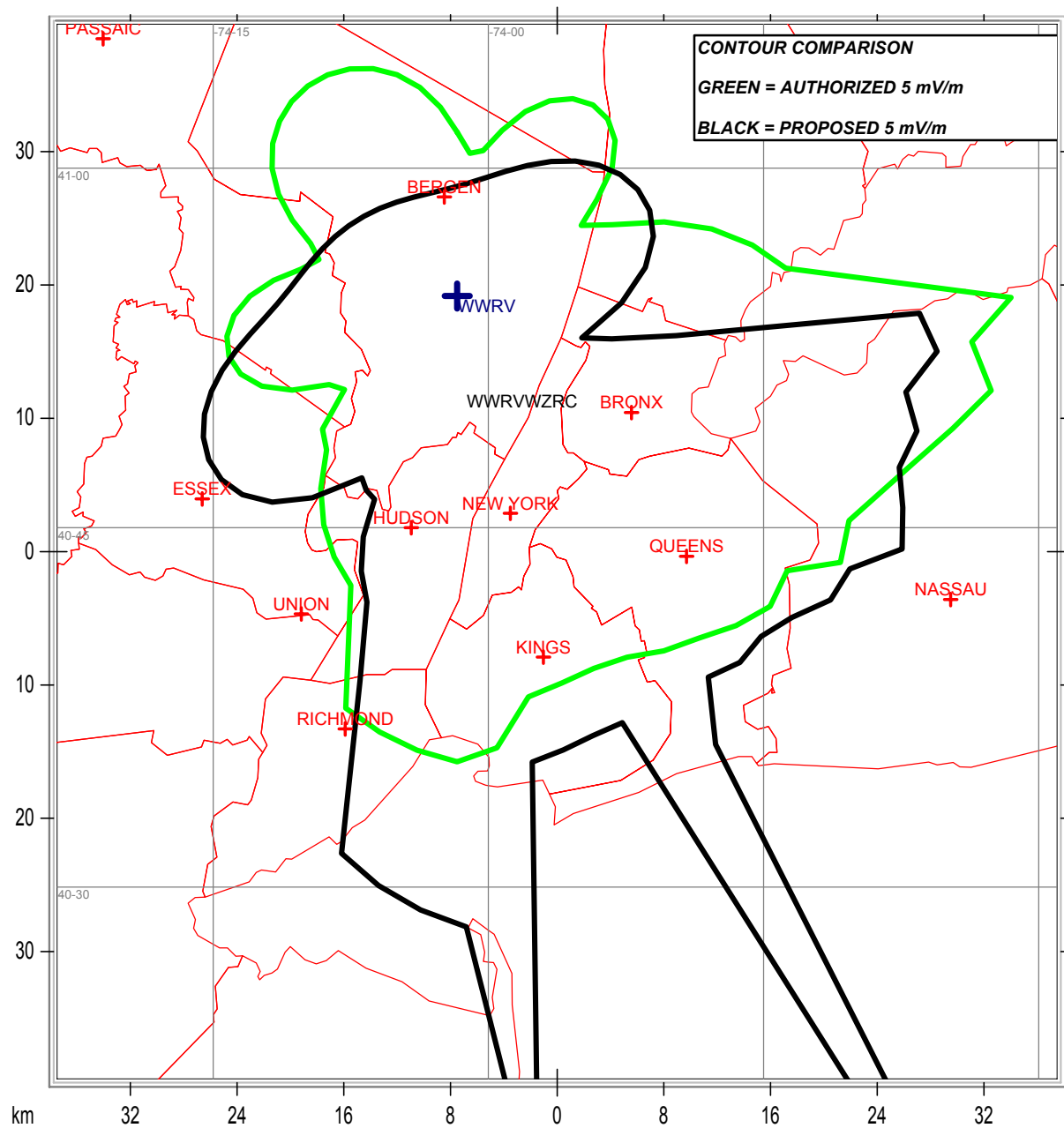
Lat/Lon Grid

WWRV PROPOSED 1330 kHz 10 kW DA-2 U NEW YORK, NEW YORK

*Communications Technologies, Inc. Marlton, New Jersey*

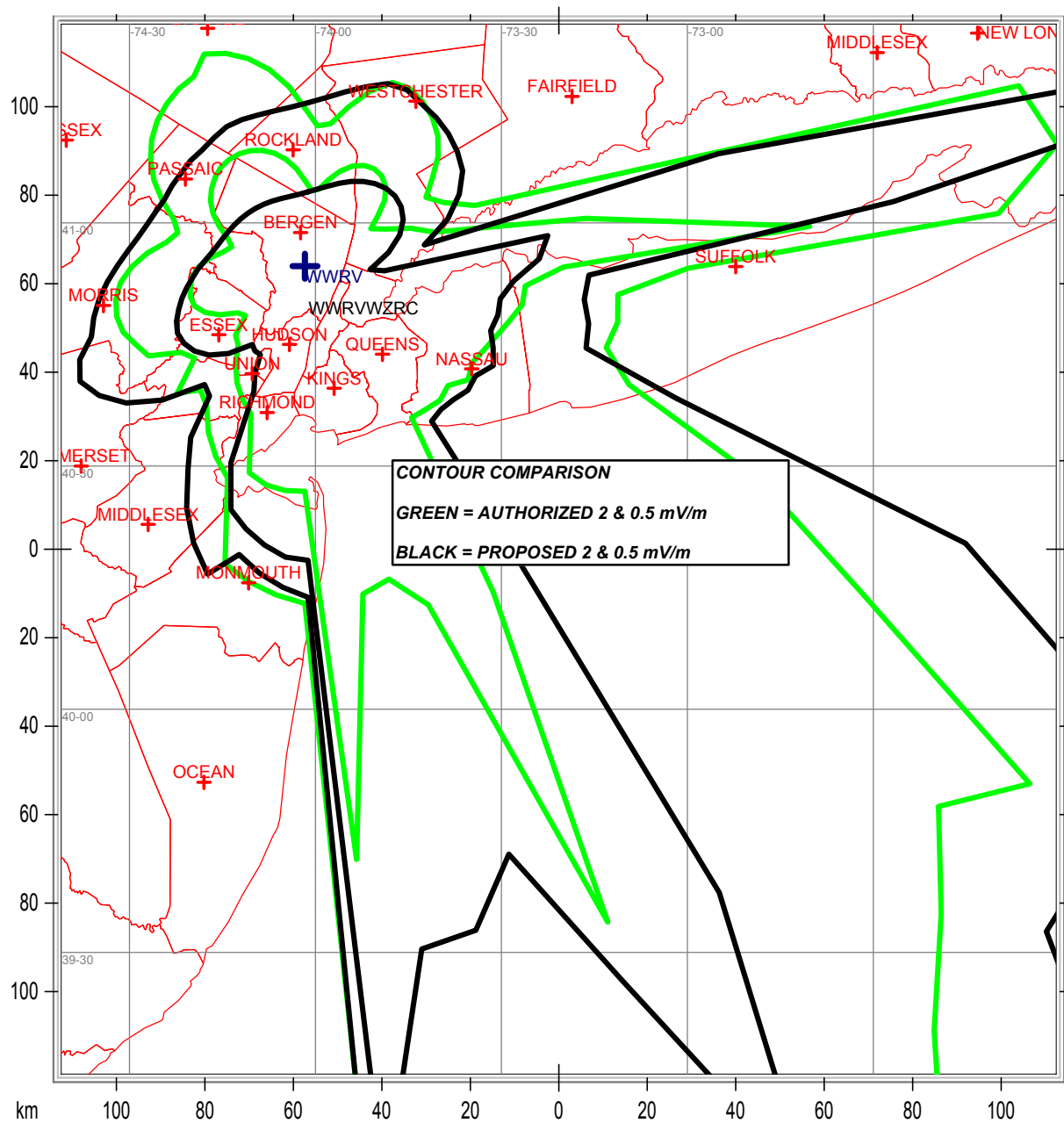
County Borders Lat/Lon Grid

WWRV PROPOSED 1330 kHz 10 kW DA-2 U NEW YORK, NEW YORK

*Communications Technologies, Inc. Marlton, New Jersey*

County Borders Lat/Lon Grid

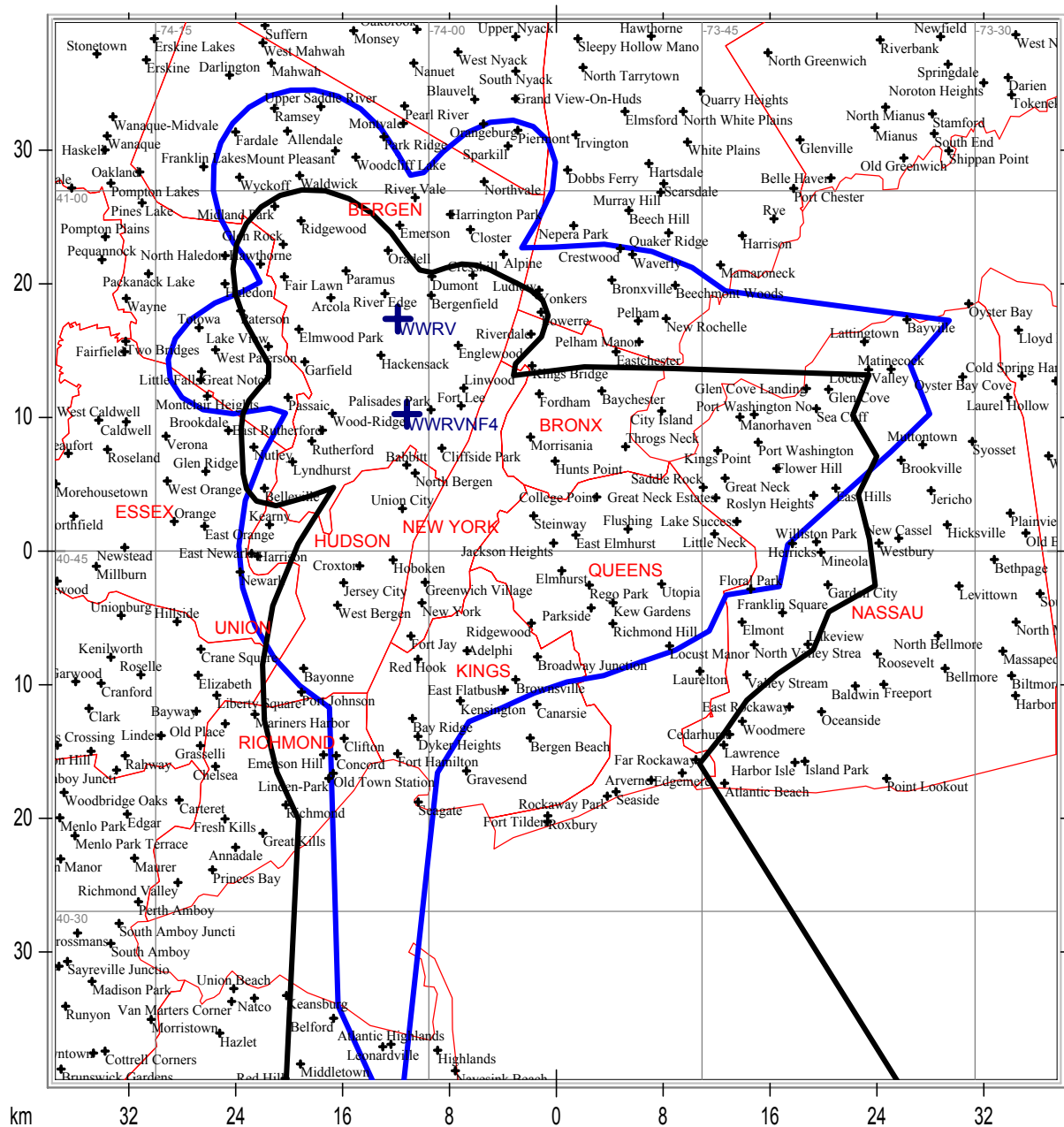
WWRV PROPOSED 1330 kHz 10 kW DA-2 U NEW YORK, NEW YORK



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County Borders Lat/Lon Grid

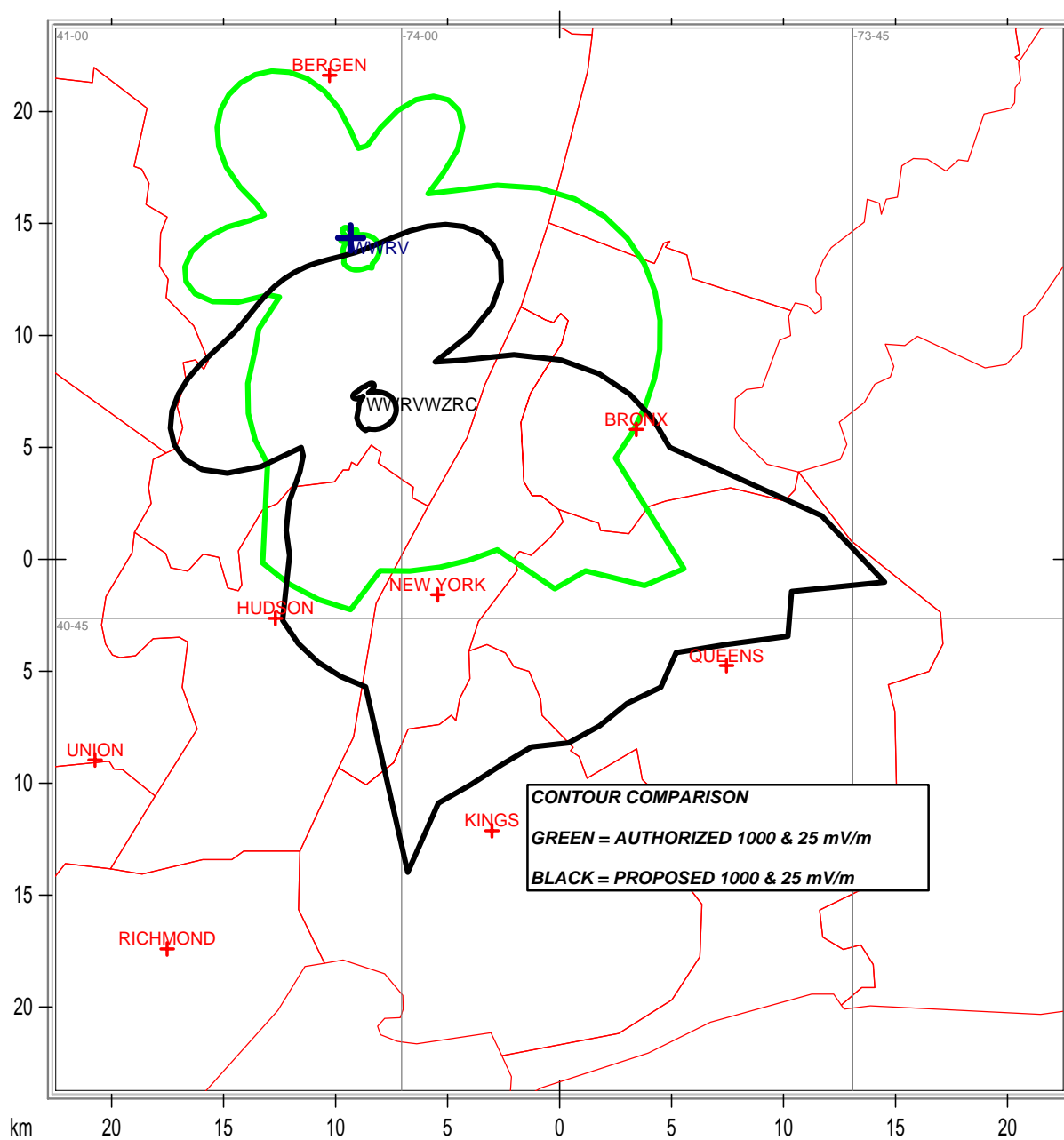
WWRV PROPOSED 1330 kHz 10 kW DA-2 U NEW YORK, NEW YORK



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County Borders Lat/Lon Grid

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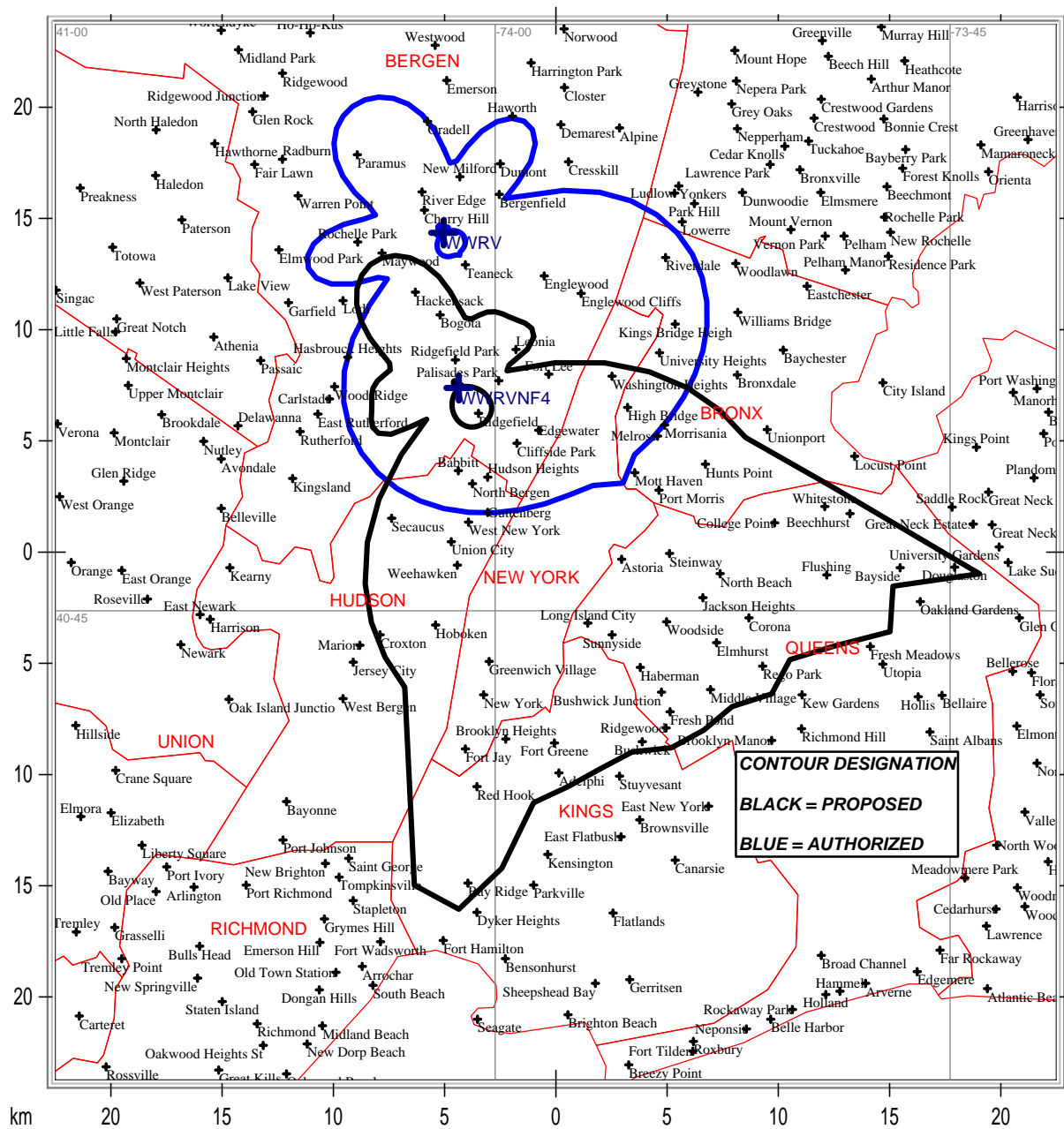
Communications Technologies, Inc. Marlton, New Jersey

County Borders Lat/Lon Grid

Map Scale: 1:300000 1 cm = 3.00 km V/H Size: 47.46 x 44.98 km

FIGURE 9

WVRV PROPOSED 1330 kHz 10 kW DA-2 U NEW YORK, NEW YORK



Communications Technologies, Inc. Marlton, New Jersey

County Borders Lat/Lon Grid

Call sign: WWRV
 Frequency: 1330 kHz
 Power: 10.000 kW
 ERSS: 1352.20 mV/m at 1 km
 Q factor at zero degrees:
 33.80 mV/m at 1 km
 Theoretical pattern RMS:
 1205.00 mV/m at 1 km
 Standard pattern RMS:
 1265.75 mV/m at 1 km
 Modified pattern RMS:
 0.00 mV/m at 1 km

Coordinates:
 N40°50'42.00" W74°01'12.00"

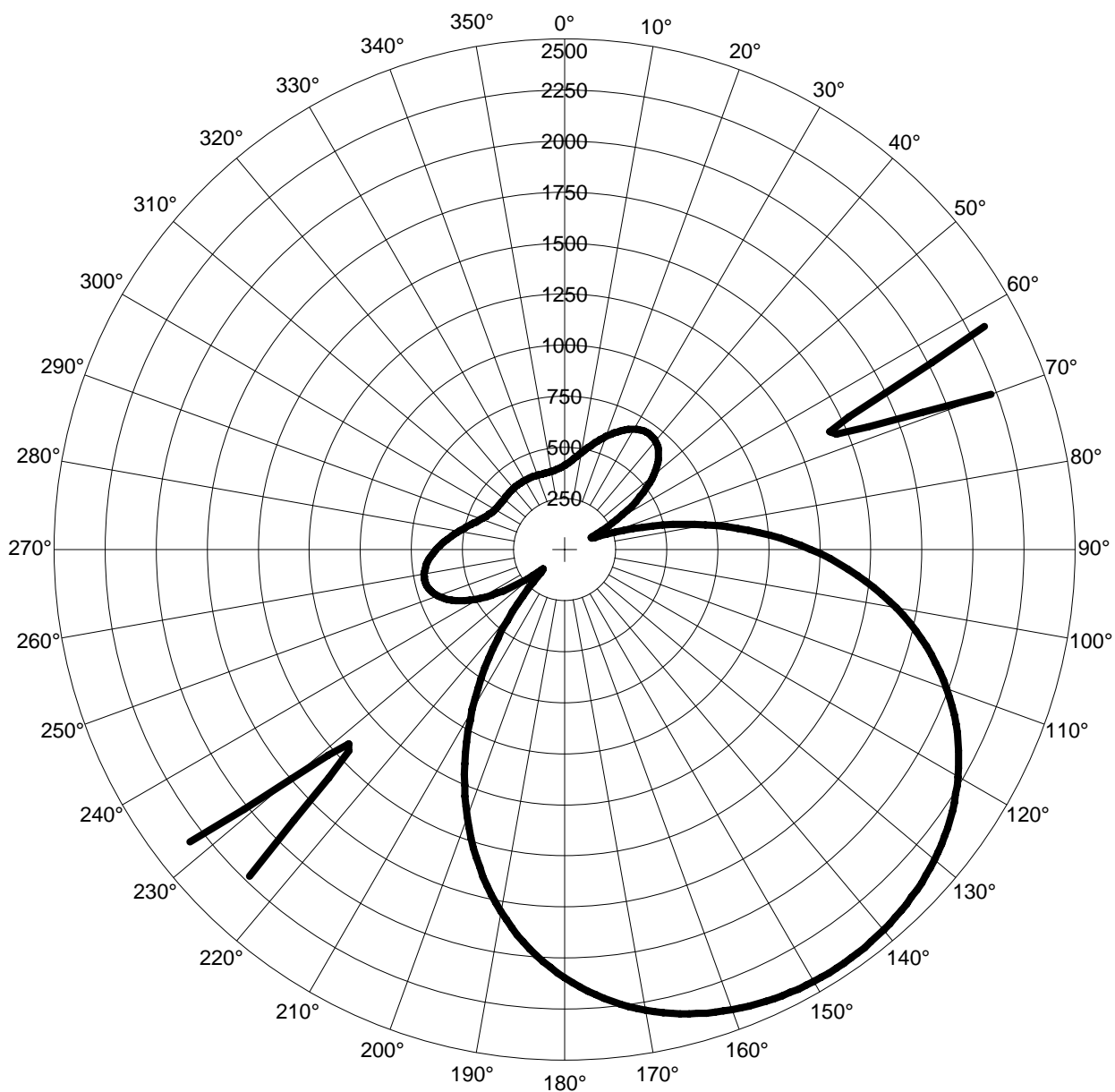
No. of augmentations: 0

TOWER PARAMETERS

	Field	Phase	Spacing	Bearing	Tower	Elec.	Length	Length	Length	Length
##	Ratio	(deg.)	(deg.)	(deg.)	Ref.	Height	Tw. A	Tw. B	Tw. C	Tw. D
					Switch	(deg.)	(deg.)	(deg.)	(deg.)	(deg.)
1	0.419	32.3	0.0	0.0	0	175.2	140.2	35.0	0.0	0.0
2	0.956	114.6	89.9	327.0	0	175.2	140.2	35.0	0.0	0.0
3	0.974	-132.5	179.7	327.0	0	175.2	140.2	35.0	0.0	0.0
4	1.000	0.0	269.6	327.0	0	175.2	140.2	35.0	0.0	0.0

FIGURE 11

HORIZONTAL PLANE PATTERN



Field in mV/m

outer curve: x10 scale

Call sign: WWRV
 Frequency: 1330 kHz
 Power: 10.000 kW
 ERSS: 2525.45 mV/m at 1 km
 Q factor at zero degrees:
 63.10 mV/m at 1 km
 Theoretical pattern RMS:
 1237.00 mV/m at 1 km
 Standard pattern RMS:
 1300.54 mV/m at 1 km
 Modified pattern RMS:
 0.00 mV/m at 1 km

Coordinates:
 N40°50'42.00" W74°01'12.00"

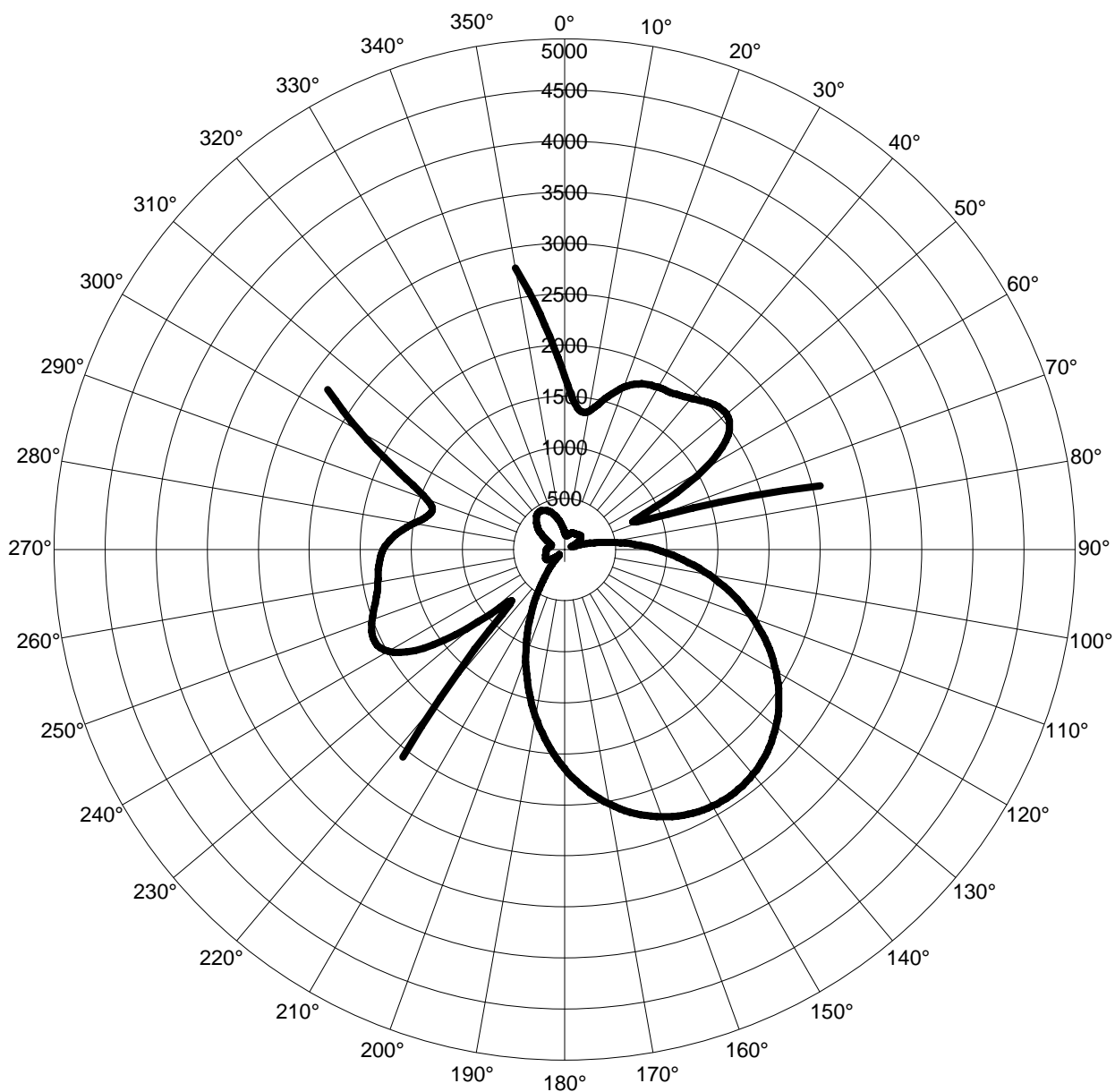
No. of augmentations: 0

TOWER PARAMETERS

	Field	Phase	Spacing	Bearing	Tower	Elec.	Length	Length	Length	Length
##	Ratio	(deg.)	(deg.)	(deg.)	Ref.	Height	Tw. A	Tw. B	Tw. C	Tw. D
					Switch	(deg.)	(deg.)	(deg.)	(deg.)	(deg.)
1	0.346	54.5	0.0	0.0	0	175.2	140.2	35.0	0.0	0.0
2	0.995	-153.4	89.9	327.0	0	175.2	140.2	35.0	0.0	0.0
3	1.000	0.0	179.7	327.0	0	175.2	140.2	35.0	0.0	0.0
4	0.448	149.3	269.6	327.0	0	175.2	140.2	35.0	0.0	0.0

FIGURE 12

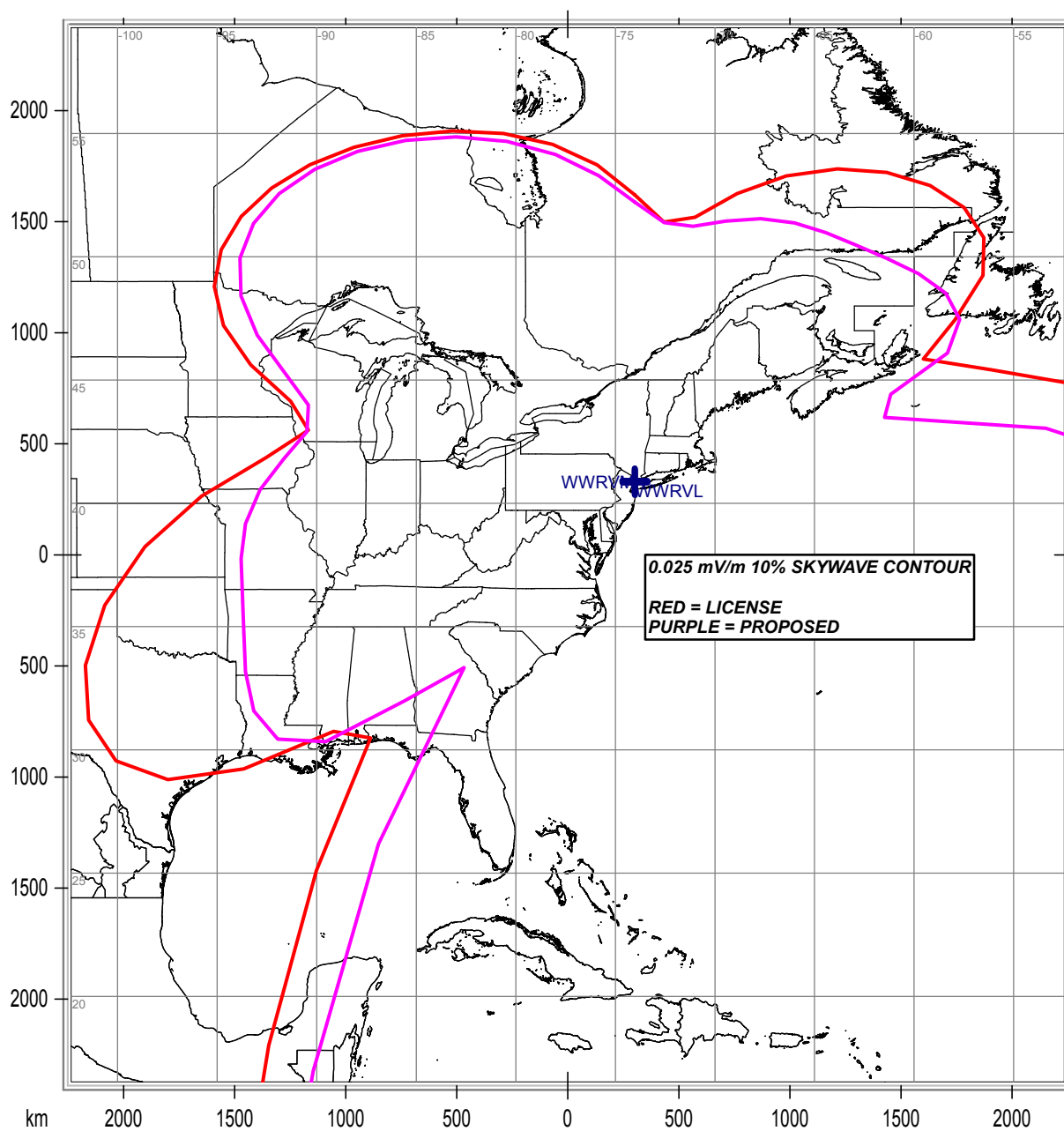
HORIZONTAL PLANE PATTERN



Field in mV/m

outer curve: x10 scale

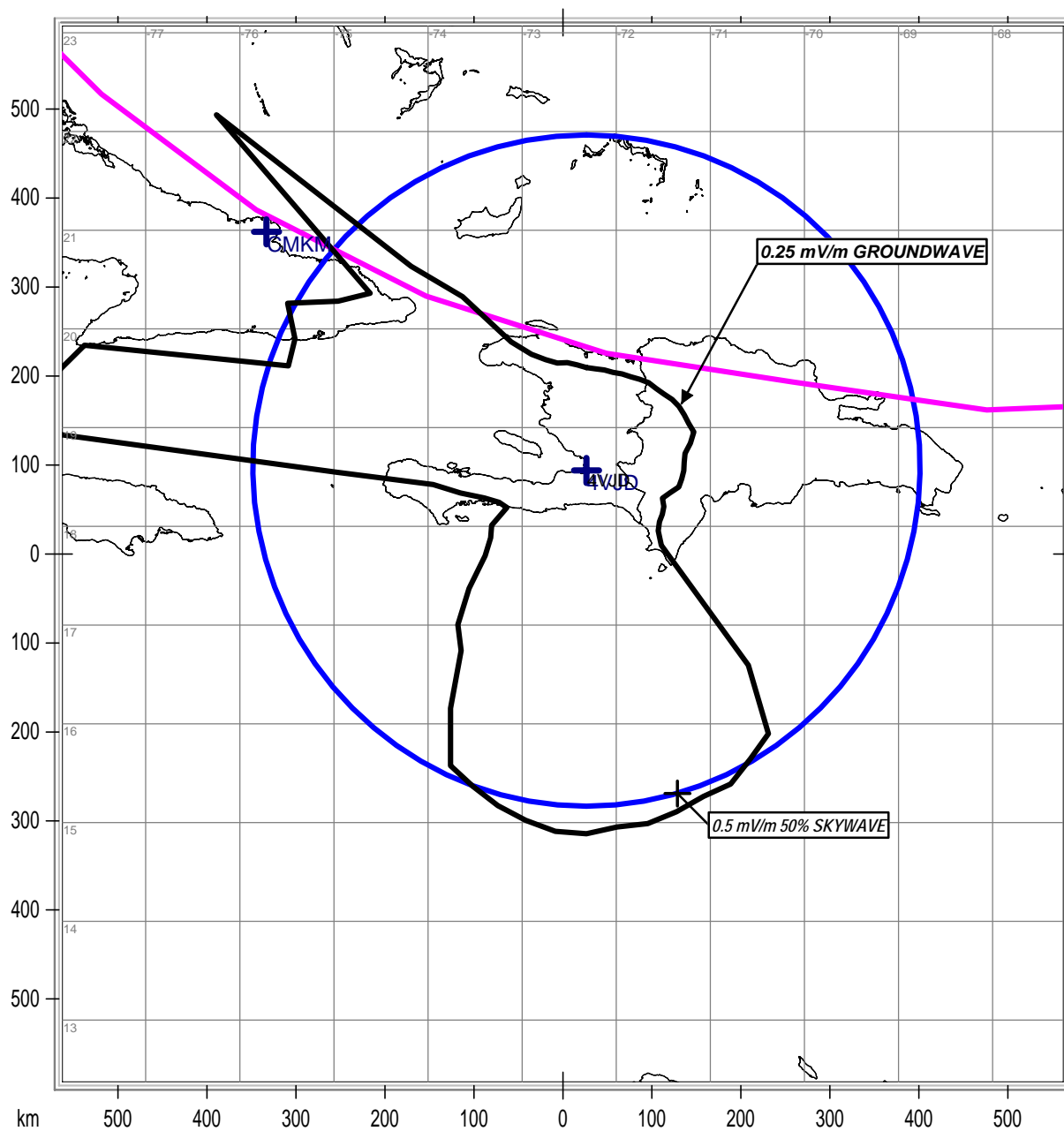
WWRV PROPOSED 1330 kHz 10 kW DA-2 U NEW YORK, NEW YORK



Communications Technologies, Inc. Marlton, New Jersey

— National Borders — Lat/Lon Grid

WWRV PROPOSED 1330 kHz 10 kW DA-2 U NEW YORK, NEW YORK



Communications Technologies, Inc. Marlton, New Jersey

— National Borders — Lat/Lon Grid