

**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 The four tower array employs existing towers in excess of 200' in height and they are registered.

Array physical configuration data appears on Exhibit I. Array parameters for daytime are found in Exhibit II and Figure 11. Array parameters for the night antenna system are found in Exhibit III and Figure 12. Critical hours operation is not proposed.

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)
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 (mV/m)	40 (mV/m)	45 (mV/m)	50 (mV/m)	55 (mV/m)	60 (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 (mV/m)	40 (mV/m)	45 (mV/m)	50 (mV/m)	55 (mV/m)	60 (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

NRCA Watertown, MA
 Coordinates : 42-17-20.0 N 71-11-21.0 W
 Frequency : 1330
 Initial FWR: 17,000
 Initial Inv Field: 1343.60 mV/M RMS

SITE INFO	CLASS SLANT DIST	GEO MAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT 50*	RSS LIMIT 25*
CALL FREQ COUNTRY											
CKLD 1330 CA	B	55.7	177.8	248.8	18.0	28.7	247.3	0.122379	6.053	6.053	6.053
THETFORD MINES											
NY 281.4	B	53.1	56.1	173.1	26.5	140.7	140.7	0.211618	8.491	8.491	8.491
NEW YORK											
NY 285.0	B	53.0	54.8	196.1	26.2	39.3	139.0	0.209069	5.812	10.290	10.290
NEW YORK											
SPRINGVILLE	B	647.5	89.6	289.5	11.8	19.8	275.6	0.075136	4.141	0.000	11.092
GREENVILLE	B	1292.9	46.4	337.8	3.5	7.7	333.7	0.025426	1.697	0.000	0.000
NEW HAVEN	B	53.3	52.3	269.7	37.7	52.1	209.8	0.301193	1.264	0.000	0.000
VT 212.5	C	271.4	128.8	305.8	33.6	47.9	237.6	0.265153	1.250	0.000	0.000
POULTNEY	C	53.9	95.5	346.0	40.3	54.6	184.9	0.316165	1.159	0.000	0.000
MA 167.4	C	260.8	164.3	305.8	29.8	43.7	249.8	0.231856	1.159	0.000	0.000
PITTSFIELD	C	316.7	207.4	295.1	28.9	42.6	250.2	0.224557	1.124	0.000	0.000
ST. JOHNSBURY	C	323.6	54.8	207.4	28.9	42.6	250.2	0.224557	1.124	0.000	0.000
VT 245.6	C	323.6	54.8	207.4	28.9	42.6	250.2	0.224557	1.124	0.000	0.000
ME 254.4	C	323.6	54.8	207.4	28.9	42.6	250.2	0.224557	1.124	0.000	0.000
AUGUSTA	C	323.6	54.8	207.4	28.9	42.6	250.2	0.224557	1.124	0.000	0.000
LAGUNILLAS	B	3576.9	37.7	978.6	0.0	0.0	978.6	0.005589	1.094	0.000	0.000
ME 254.4	C	323.6	54.8	207.4	28.9	42.6	250.2	0.224557	1.124	0.000	0.000
3571.4	B	46.4	24.4	362.6	0.3	3.2	362.6	0.014815	1.074	0.000	0.000
FL 1846.7	B	1857.5	46.4	362.6	0.3	3.2	362.6	0.014815	1.074	0.000	0.000
FORT PIERCE	B	1857.5	46.4	362.6	0.3	3.2	362.6	0.014815	1.074	0.000	0.000
FL 1846.7	B	1857.5	46.4	362.6	0.3	3.2	362.6	0.014815	1.074	0.000	0.000
NH 186.1	C	274.6	182.0	254.8	37.0	51.4	172.8	0.288877	0.998	0.000	0.000
CONWAY	C	274.6	182.0	254.8	37.0	51.4	172.8	0.288877	0.998	0.000	0.000
MIDDLETOWN	C	347.8	53.4	70.0	26.2	39.4	235.3	0.208053	0.979	0.000	0.000
NY 284.6	C	347.8	53.4	70.0	26.2	39.4	235.3	0.208053	0.979	0.000	0.000
GLOVERSVILLE	C	337.0	106.5	268.8	27.3	40.8	227.8	0.214458	0.977	0.000	0.000
NY 271.3	C	337.0	106.5	268.8	27.3	40.8	227.8	0.214458	0.977	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
GARDNER	C	213.2	117.0	283.2	62.7	72.7	115.3	0.421844	0.973	0.000	0.000
MA 73.8	C	213.2	117.0	283.2							

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

WJMK 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	SWAYE FLD	LIMITATION	RSS LIMIT 50%	RSS LIMIT 25%
WYRD 1330 US	SC 845.5		GREENVILLE	B	868.9	42.4	166.1	1136.6	7.8	13.9	1088.1	0.059567	12.962	12.962	12.962	12.962
WMLT 1330 US	GA 616.8		DUBLIN	B	648.4	41.2	313.3	113.3	11.7	19.8	304.4	0.093213	5.675	5.675	5.675	14.150
WBTV 1330 US	VA 1021.3		DANVILLE	B	1040.7	43.3	185.2	487.2	5.7	10.9	481.4	0.044264	4.262	4.262	4.262	14.778
KVOL 1330 US	LA 1179.3		LAFAYETTE	B	1196.1	39.9	102.3	565.4	4.3	8.8	562.8	0.036585	4.129	4.129	4.129	15.344
WRRV 1330 US	NY 1597.9		NEW YORK	B	1610.4	45.5	203.3	935.6	1.5	4.9	933.8	0.019989	3.714	3.714	3.714	0.000
WRRV 1330 US	NY 1604.4		NEW YORK	B	1616.8	45.6	203.2	999.8	1.5	4.8	998.9	0.019725	3.546	3.546	3.546	0.000
XVTV 1330 VE	2146.1		LAGUNILLAS	B	2155.4	30.3	334.8	978.6	0.0	1.5	978.6	0.018044	3.532	3.532	3.532	0.000
WNX 1330 US	MS 1215.7		GREENVILLE	B	1232.0	41.5	120.2	400.8	4.0	8.4	399.1	0.034328	2.740	2.740	2.740	0.000
XEFC 1330 MX	B 1195.3		MERIDA	B	1195.3	35.3	50.7	303.8	4.3	8.8	301.9	0.041539	2.508	2.508	2.508	0.000
XVFJ 1330 VE	2354.3		RUBIO	C	2362.8	29.0	339.9	692.0	0.0	0.5	692.0	0.015906	2.201	2.201	2.201	0.000
HJNR 1330 CO	2448.8		S GIL 1	C	2457.0	28.4	342.6	692.0	0.0	0.0	692.0	0.015086	2.088	2.088	2.088	0.000
YVDY 1330 VE	2464.4		CALABOZO	B	2472.5	29.8	328.4	692.0	0.0	0.0	692.0	0.014478	2.004	2.004	2.004	0.000
WJMT 1330 US	FL 342.9		JACKSONVILLE	B	397.0	40.1	156.7	590.9	22.0	34.1	535.4	0.185658	1.988	1.988	1.988	0.000
WVH 1330 US	IN 1357.1		EVANSVILLE	B	1371.8	43.9	148.1	324.7	3.0	6.9	323.1	0.027681	1.782	1.782	1.782	0.000
HRSW 1330 HO	1649.8		TEGUCIGALPA	C	1661.9	31.9	24.5	309.5	1.3	4.5	309.4	0.026673	1.650	1.650	1.650	0.000
WGS 1330 US	MD 1402.3		HAVRE DE GRACE	B	1416.5	44.8	197.5	304.4	2.7	6.5	303.3	0.025522	1.548	1.548	1.548	0.000
YNAC 1330 NU	1780.1		RADIO CIMBA	C	1791.3	30.9	15.3	309.5	0.6	3.6	309.5	0.024132	1.494	1.494	1.494	0.000
WLQY 1320 US	FL 158.6		HOLLYWOOD	B	255.2	38.0	356.8	79.1	41.9	56.1	212.5	0.341233	1.450	1.450	1.450	0.000
KNS 1330 US	KS 1944.5		WICHITA	B	1954.8	43.6	121.0	481.2	0.0	2.6	481.2	0.014678	1.413	1.413	1.413	0.000
HJAD 1330 CO	1947.7		CARTAGENA 8	C	1968.0	30.4	345.7	309.5	0.0	2.6	309.5	0.021123	1.308	1.308	1.308	0.000
WRD 1340 US	FL 202.6		DAYTONA BEACH	B	284.7	39.6	161.8	360.5	34.9	49.2	208.1	0.290343	1.208	1.208	1.208	0.000
WTS 1340 US	FL 104.2		SEBRING	C	225.5	38.7	93.0	316.0	53.9	66.2	147.5	0.395501	1.167	1.167	1.167	0.000
WTAN 1340 US	FL 245.9		CLEARWATER	C	317.0	38.9	102.9	269.7	23.8	43.6	224.3	0.254870	1.143	1.143	1.143	0.000
WFE 1340 US	FL 181.5		CLERMONT	C	270.1	39.2	133.4	241.0	38.0	52.4	181.6	0.312185	1.134	1.134	1.134	0.000
KEAH 1340 US	GA 1942.4		JUCHITAN	B	1952.6	32.9	48.4	279.4	0.0	2.6	279.4	0.019970	1.116	1.116	1.116	0.000
WFER 1340 US	FL 97.1		LANTANA	C	222.3	38.3	343.1	263.7	55.8	67.7	131.9	0.404686	1.067	1.067	1.067	0.000
XECC 1330 MX	CS 1708.7		SANTO TOMAS OXC	B	1720.4	31.1	44.0	215.2	1.0	4.1	215.1	0.024488	1.054	1.054	1.054	0.000
WDR 1340 US	FL 372.8		LAKE CITY	C	423.1	40.0	143.1	403.9	20.3	31.8	293.4	0.170169	0.998	0.998	0.998	0.000
XEBO 1330 MX	GT 2258.6		IRAPUATO	B	2267.4	35.0	66.3	304.4	0.0	0.9	304.4	0.014594	0.888	0.888	0.888	0.000
XEVB 1330 MX	PU 2092.7		IZICAR DE MATAM	B	2102.3	34.0	58.7	258.9	0.0	1.8	258.9	0.017135	0.887	0.887	0.887	0.000
WDDY 1320 US	FL 204.6		VENICE	B	286.1	38.5	78.6	136.1	34.7	49.0	150.2	0.292947	0.880	0.880	0.880	0.000
HJFE 1330 CO	2571.2		PEREIRA 2	C	2579.0	27.5	349.3	309.5	0.0	0.0	309.5	0.014176	0.877	0.877	0.877	0.000
KCKM 1330 US	TX 2333.8		MONAHANS	B	2342.7	40.5	96.2	315.3	0.0	1.1	315.3	0.032246	0.772	0.772	0.772	0.000
HCVP 1330 EC	3415.2		MACHALA	B	3421.0	23.4	359.1	379.0	0.0	0.0	379.0	0.009425	0.714	0.714	0.714	0.000
KERP 1330 MX	JA 2404.6		OCCOTLAN	B	2412.9	34.8	66.5	264.5	0.0	0.2	264.5	0.013344	0.695	0.695	0.695	0.000
KINE 1330 US	TX 1716.8		KINGSVILLE	B	1728.4	38.5	86.5	164.4	0.9	4.0	164.3	0.020806	0.684	0.684	0.684	0.000
WTIF 1340 US	GA 538.9		TIFTON	C	574.8	40.6	145.1	305.8	13.7	22.7	293.3	0.020806	0.651	0.651	0.651	0.000
WRCA 1330 US	MA 1846.7		WATERTOWN	B	1857.5	46.4	209.7	218.4	0.3	3.2	218.4	0.014815	0.647	0.647	0.647	0.000
XENA 1330 MX	CL 2614.0		MANZANILLO	B	2621.7	34.1	64.6	278.0	0.0	0.0	278.0	0.011574	0.643	0.643	0.643	0.000
WBRT 1340 US	GA 561.8		LYONS	C	596.4	41.0	159.8	305.8	13.1	21.8	294.3	0.105299	0.620	0.620	0.620	0.000
KWKW 1330 US	CA 3680.3		LOS ANGELES	B	3685.7	41.9	91.0	695.7	0.0	0.0	695.7	0.004378	0.609	0.609	0.609	0.000
WFRN 1330 US	PA 1616.5		ERIE	B	1628.8	46.0	181.2	156.4	1.4	4.8	155.8	0.019228	0.599	0.599	0.599	0.000

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

WMT Dublin, GA	WMT Dublin, GA	CITY	ST DIST	CLASS SLANT DIST	GEOMAG MID	AZIMUTH	GND RAD	MIN ELEV	MAX ELEV	MAX RAD	SWAVE FLD	LIMITATION	RSS LIMIT	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	11.166	11.166	11.166
WYRD 1330 US	DANVILLE	VA 548.4	B	583.7	45.8	215.9	174.0	13.5	22.3	163.9	0.106379	3.487	0.000	11.698
WYRD 1330 US	EVANSVILLE	IN 745.7	B	772.1	46.3	143.5	258.4	9.2	16.1	135.6	0.068577	3.369	0.000	12.173
WYRD 1330 US	GREENVILLE	MS 765.7	B	791.4	43.9	94.8	193.2	8.9	15.6	190.2	0.067952	2.585	0.000	0.000
WYRD 1330 US	LAFAYETTE	LA 909.3	B	931.1	42.3	71.1	236.4	6.9	12.7	241.0	0.053476	2.578	0.000	0.000
WYRD 1330 US	LAGUNILLAS	TX 2760.4	B	2767.6	32.9	336.2	978.6	0.0	0.0	978.6	0.010928	2.139	0.000	0.000
WYRD 1330 US	NEW YORK	NY 1215.7	B	1232.1	48.1	223.1	282.5	4.0	8.4	230.2	0.028659	1.733	0.000	0.000
WYRD 1330 US	MERIDA	YU 1447.7	B	1461.5	37.7	26.0	393.2	2.4	6.1	392.8	0.028268	1.712	0.000	0.000
WYRD 1330 US	RUBIO	CO 2577.1	C	2577.8	31.6	339.9	692.0	0.0	0.0	692.0	0.009944	1.376	0.000	0.000
WYRD 1330 US	COLUMBUS	GA 197.9	C	281.4	43.6	85.8	296.1	35.6	49.9	228.9	0.299175	1.370	0.000	0.000
WYRD 1330 US	TIFFIN	GA 134.8	C	241.2	43.1	25.5	305.8	46.6	60.3	186.5	0.365532	1.363	0.000	0.000
WYRD 1330 US	S GIL 1	KS 3065.0	C	3071.5	31.0	342.0	692.0	0.0	0.0	692.0	0.009568	1.324	0.000	0.000
WYRD 1330 US	WICHITA	KS 1425.3	B	1439.2	46.0	109.4	277.1	2.6	6.3	274.4	0.024097	1.323	0.000	0.000
WYRD 1330 US	AUGUSTA	GA 131.3	C	239.3	44.2	218.3	291.8	47.3	60.9	173.6	0.371457	1.289	0.000	0.000
WYRD 1330 US	CALABOZO	GA 3067.7	C	3074.2	32.4	331.2	692.0	0.0	0.0	692.0	0.009169	1.269	0.000	0.000
WYRD 1330 US	JACKSONVILLE	FL 273.9	B	339.1	42.6	337.4	628.9	27.1	40.5	285.7	0.232161	1.234	0.000	0.000
WYRD 1330 US	CHARLESTON	SC 273.3	C	338.6	43.9	264.8	312.2	27.2	40.5	261.7	0.233390	1.221	0.000	0.000
WYRD 1330 US	ATLANTA	GA 194.7	C	279.1	44.2	132.2	275.2	36.0	50.4	201.4	0.303095	1.221	0.000	0.000
WYRD 1330 US	CEDARTOWN	GA 275.4	C	340.4	44.3	125.8	328.3	27.0	40.3	263.1	0.231904	1.220	0.000	0.000
WYRD 1330 US	WELLS	GA 268.3	C	334.7	44.8	169.5	355.2	27.6	41.1	253.4	0.237381	1.203	0.000	0.000
WYRD 1330 US	MOUNTAIN CITY	FL 616.8	B	648.4	41.2	337.7	73.6	11.7	19.8	64.2	0.093213	1.197	0.000	0.000
WYRD 1330 US	SUMTER	SC 280.9	C	344.8	44.4	238.0	309.0	26.5	39.8	261.2	0.227812	1.190	0.000	0.000
WYRD 1330 US	ROCK HILL	SC 318.5	C	376.1	44.9	212.9	318.6	23.6	36.2	275.5	0.201955	1.113	0.000	0.000
WYRD 1330 US	SYLACAUGA	AL 321.5	C	378.6	43.9	101.2	307.4	23.4	35.9	271.4	0.200209	1.087	0.000	0.000
WYRD 1330 US	CLEVELAND	TN 342.4	C	386.6	44.9	147.1	354.1	22.0	34.1	285.9	0.187524	1.072	0.000	0.000
WYRD 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	1.057	0.000	0.000
WYRD 1330 US	TEGUCIGALPA	HN 2103.6	C	2113.1	34.3	11.4	309.5	0.0	1.7	309.5	0.016814	1.041	0.000	0.000
WYRD 1330 US	LAKE CITY	FL 268.6	C	334.9	42.5	355.4	403.9	27.6	41.0	219.9	0.236023	1.038	0.000	0.000
WYRD 1330 US	KNOXVILLE	TN 390.5	C	438.7	45.3	164.6	354.1	19.4	30.6	300.2	0.162278	0.974	0.000	0.000
WYRD 1330 US	DAYTONA BEACH	FL 415.1	C	460.7	42.0	335.2	360.5	18.2	29.0	310.4	0.152103	0.944	0.000	0.000
WYRD 1330 US	RADIO CIAMA	NC 2290.1	C	2298.8	33.4	5.3	309.5	0.0	0.8	309.5	0.014936	0.925	0.000	0.000
WYRD 1330 US	LENOIR	NC 389.3	C	437.7	45.4	198.4	309.7	19.4	30.7	283.4	0.162818	0.923	0.000	0.000
WYRD 1330 US	WADSWORTH	NC 371.9	C	422.2	44.9	225.2	285.4	20.3	31.9	264.7	0.171610	0.908	0.000	0.000
WYRD 1330 US	LOMBERTON	NC 422.9	C	467.8	44.8	238.7	346.0	17.8	28.5	305.4	0.148297	0.906	0.000	0.000
WYRD 1330 US	LYONS	GA 63.6	C	209.9	43.5	308.0	305.8	66.0	75.0	102.0	0.438636	0.894	0.000	0.000
WYRD 1330 US	SELMA	AL 387.5	C	436.1	43.5	86.6	294.5	19.5	30.8	272.0	0.164344	0.894	0.000	0.000
WYRD 1330 US	JUCHITAN	OA 2170.0	B	2179.2	35.3	32.1	279.4	0.0	1.4	279.4	0.015466	0.864	0.000	0.000
WYRD 1330 US	WINSTON-SALEM	NC 458.0	C	499.7	45.5	212.3	384.6	16.4	26.5	321.8	0.134272	0.864	0.000	0.000
WYRD 1330 US	ATHENS	GA 160.9	C	256.7	44.3	162.0	363.6	41.4	55.7	126.9	0.338907	0.860	0.000	0.000
WYRD 1330 US	FLINT	MI 1159.4	B	1176.5	48.8	176.3	134.3	4.5	9.0	132.0	0.031673	0.836	0.000	0.000
WYRD 1330 US	ERIE	PA 1077.7	B	1096.1	48.5	194.3	121.8	5.2	10.1	114.6	0.036370	0.834	0.000	0.000
WYRD 1330 US	WINCHESTER	GA 461.8	C	461.8	44.9	133.4	282.9	18.1	28.9	274.3	0.151003	0.829	0.000	0.000
WYRD 1330 US	TRAPATO	GT 2261.1	B	2269.9	37.3	50.3	304.4	0.0	0.9	304.4	0.013458	0.819	0.000	0.000