

# TECHNICAL EXHIBIT

APPLICATION FOR MODIFICATION OF  
CONSTRUCTION PERMIT  
STOP 26 RIVERBEND LICENSES, LLC,  
DEBTOR-IN-POSSESSION

RADIO STATION WVKO  
COLUMBUS, OHIO

February 14, 2006

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1580 KHZ 3.2KW-D    290 W-N    U    DA-2

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RADIO STATION WVKO  
COLUMBUS, OHIO

1580KHZ 3.2KW-D 290W-N U DA-2

## **TECHNICAL NARRATIVE**

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This engineering report has been prepared in support of a minor modification for Construction Permit File No. BP-20031124APJ as modified by BMP20050124AJA for AM broadcast station WVKO, 1580 kHz, Columbus, OH. and is intended to replace all outstanding construction permits for WVKO.

It has been discovered that the current licensed site for WVKO will become unavailable by May, 2006 and that the site specified in the current construction permit, as modified, is no longer available. The City of Columbus has offered an alternate location approximately 2.2km East-Northeast from the currently authorized CP site in BMP20050124AJA. This application is intended to request the site change along with some slight modifications of operating parameters to account for differences in property dimensions and location.

***Due to the impending loss of the licensed WVKO site, Stop 26 Riverbend, Debtor-in-Possession respectfully requests expedited action on this application.***

The existing WVKO License, BL-19970508AB authorizes 1.0 kW of directional daytime power and 0.25 kW of directional nighttime power using separate day and night operating parameters. The existing modified WVKO Construction Permit File No. BMP20050124AJA authorizes daytime operation of 2.5 kW and Nighttime operation of 290 watts. This instant application proposes a single site for daytime and nighttime operation with 3.2 KW from a two tower array for daytime operation and

with 290 watts from a three tower array for nighttime operation. Only the northwestern-most tower will be used for both daytime and nighttime operation.

The data and exhibit numbering contained herein is responsive to Section III-A of FCC Form 301.

**Exhibit 11- Broadcast Facility.** The broadcast facility remains in compliance with all applicable rules contained in *C.F.R. Chapter 47, Part 73, Subpart A*. Details of the proposed antenna systems are located in **Exhibit(s) 11.1 to 11.5**. The proposed towers will be less than 200 feet in height above ground level and the FCC TOWAIR program has been run. TOWAIR indicated that Antenna Structure Registration is not required. The TOWAIR output is shown in **Exhibit 11.1a**.

- A map depicting the present 0.5 mV/m, 2.0 mV/m, and 5.0 mV/m daytime service contours and City of License coverage for WVKO has been included as **Exhibit 11.6(a)**.
- A map depicting the proposed daytime service contours and City of License coverage has been included as **Exhibit 11.6(b)**.
- A map depicting the present nighttime Nighttime Interference Free Contour (NIF) and present City of License coverage for WVKO has been included as **Exhibit 11.7(a)**.
- A map depicting the proposed nighttime Nighttime Interference Free Contour (NIF) and proposed City of License coverage for WVKO has been included as **Exhibit 11.7(b)**.
- The present and proposed 1.0 V/m daytime "Blanket" Contours have been included in **Exhibit 11.8**.

**Exhibit 12 - Community of License Coverage.** Presently the WVKO 5mV/m daytime signal covers less than 100% of Columbus, OH. and less than 80% of Columbus receives nighttime service. Both proposed daytime and nighttime operations will increase service to Columbus over the present licensed operation. As

shown in **Figures 11.6 and 11.7**, daytime City of License coverage will increase from 93.57% to 98.4%. Nighttime Interference Free coverage will increase from 7.72% to 19.3%.

**73.24(g) Compliance.** The proposed calculated 1000mV/m contours are depicted in Figure 11.9. It has been determined that the population according to the U.S. Census within the 1000mV/m day contour (784) is less than 1 percent of the population within the 25mV/m contour (317,105).

**Exhibit 13 - Main Studio Location.** The main studio location remains in compliance with the requirements of §73.1125. Studios for WVKO will remain unchanged from the present facilities inside the community of license, Columbus, OH.

**Exhibit 14 - Interference.** The proposed facility complies with all applicable rule sections. Please see **Exhibits 15, 16, and 17** for details of those studies.

**Daytime Allocation Study.** The proposed allocation remains in compliance with the requirements of §73.37. **Exhibits 15.1 to 15.7** contain relevant allocation studies for the proposed operation. This study was made using FCC M-3 conductivities. The distances to all groundwave contours were calculated using the equivalent distance method. Contours were calculated at five degree intervals using ground conductivity values shown on the M-3 soil map for U.S. contours. No daytime contour overlap will take place with any other existing or proposed AM facility.

**Nighttime Allocation Study.** The proposed nighttime allocation will afford protection to all stations and international allotments operating on 1570 kHz, 1580 kHz, and 1590 kHz. **Exhibits 16.1 to 16.5** contain all pertinent nighttime allocation studies with respect to the antenna system proposed.

**Exhibit 17 - Critical Hours.** The proposed allocation is in compliance with the requirements of 73.187. No critical hours are required for this allocation.

**Blanketing Interference.** In response to all complaints of blanketing interference, the applicant will undertake steps to mitigate the blanketing effects in accordance with the requirements of Section 73.88 of the FCC Rules. There are no AM stations operating within 3.2km of the proposed antenna system and no FM or TV stations operating within 5km of the proposed site. It is expected that no detrimental interaction will occur with any stations.

**Exhibit 18 - Environmental Considerations.** This instant application has been evaluated for potential of human exposure to non-ionizing radiofrequency radiation. The guidelines set forth in OET Bulletin No. 65 (Edition 97-01) and the companion Supplement A (Edition 97-01) were used as the standard for this evaluation.

The proposed 1580 kHz, WVKO facility will operate with a daytime power of 3.2 kW into a two array and 290 watts into a three tower array from the same location. One tower will be common between both arrays. To maximize the degree of protection afforded to the public, the total daytime power of 3.2 kW has been assumed to be present in each tower. Both arrays will use vertical elements which are 90.0° in electrical length or 0.250 wavelengths.

Table 2 of Supplement A specifies for 0.21-0.4 wavelength AM towers operating on 1580 kHz with a total input power of 5.0 kW or less, the non-ionizing radiation will fall to safe levels at distances of 2 meters (6.6 feet) or more. Fences will be built around the base of each tower to achieve this level of protection.

Access to areas within the fences will be limited by means of locked gates. In addition to these measures, signs will also be posted warning of the potential for exposure to excessive levels of non-ionizing radiofrequency radiation.

In the event maintenance personnel are required to work within the restricted areas, they will be advised to limit their work in the high RF field areas to specified periods of time appropriate for compliance with the FCC guidelines set forth in OET Bulletin No.

65(Edition 97-01). If their work cannot be completed within the specified period of time, it is proposed to reduce power appropriately or shut down the operation of the station to permit completion of the assignment. There are no additional sources of radiofrequency radiation subject to the guidelines of OET Bulletin No. 65 (Edition 97-01) at this location.

A handwritten signature in cursive script that reads "Bert Goldman".

Bertram Goldman  
Goldman Engineering Management, LLC  
5948 Charlestown Dr.  
Dallas, TX. 75230  
(972) 387-0111  
Email: [bert@bgoldman.net](mailto:bert@bgoldman.net)

# EXHIBIT 11.1

## DESCRIPTION OF PROPOSED DAYTIME ANTENNA SYSTEM

### ANTENNA SYSTEM

1. The antenna system will consist of four (4) vertical, insulated, guyed, uniform cross-section steel towers. One tower will be common between the two tower daytime array and the three tower nighttime array. The towers will stand 90.0° or 47.4 meters above a 0.9 meter base pier and insulator for a height of 48.3 meters Above Ground Level (AGL). No obstruction lighting is required. Given the site elevation of 264 meters AMSL, the top of the towers will stand at 312.3 meters AMSL. Antenna Structure Registration is not required. The FCC TOWAIR program was run for the proposed site and that program indicated no registration requirement. The TOWAIR output is shown as Exhibit 11.1.
2. The proposed ground system consists of 120 buried copper radials, extending 47.4 meters in length, about the base of the tower except where shortened to terminate at property boundaries. The material used for the radials will be #10 AWG, soft drawn copper wire.
3. Proposed antenna system theoretical parameters:

PROPOSED DAYTIME THEORETICAL PARAMETERS				
TOWER	FIELD	PHASE	SPACING	ORIENTATION
1 (NW)	1.000	0.0°	0.0°	0.0°
2 (SE)	0.43	-88.4°	90.0°	102.0°

PROPOSED NIGHTTIME THEORETICAL PARAMETERS				
TOWER	FIELD	PHASE	SPACING	ORIENTATION
1 (NE)	1.000	0.0°	0.0°	0.0°
2 ( C )	2.000	-60.0°	135.0°	195.0°
3 (SW)	1.150	-140.0°	270.0°	195.0°

4. The theoretical RMS for the proposed daytime array will be 553.19 mV/m at one kilometer. The standard pattern RMS will be 581.15 mV/m at one kilometer.
5. The theoretical RMS for the proposed nighttime array will be 161.71 mV/m at one kilometer. The standard pattern RMS will be 170.12 mV/m at one kilometer.
6. The sampling system for the proposed array will conform to §73.68 of the Commission's Rules regarding approved sampling systems.

Exhibit 11.1a

## TOWAIR Determination Results

A routine check of the coordinates, heights, and structure type you provided indicates that this structure does not require registration.

### \*\*\* NOTICE \*\*\*

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

#### DETERMINATION Results

**PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7151.82 MTRS (7.15179 KM) AWAY**

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	40-00-12.00N	082-54-27.00W	PORT COLUMBUS INTL	FRANKLIN COLUMBUS, OH	244.6	3086.0999999999999

**PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7884.87 MTRS (7.8849 KM) AWAY**

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	39-59-44.00N	082-54-32.00W	PORT COLUMBUS INTL	FRANKLIN COLUMBUS, OH	244.6	3086.0999999999999

#### Your Specifications

##### NAD83 Coordinates

Latitude 40-03-39.0 north

Longitude 082-56-43.0 west

##### Measurements (Meters)

Overall Structure Height (AGL) 48

Support Structure Height (AGL) 47

Site Elevation (AMSL) 261

##### Structure Type

TOWER - Free standing or Guyed Structure used for Communications Purposes

#### [Tower Construction Notification](#)

Notify Tribes and Historic Preservation Officers of your plans to build a tower.

# EXHIBIT 11.2

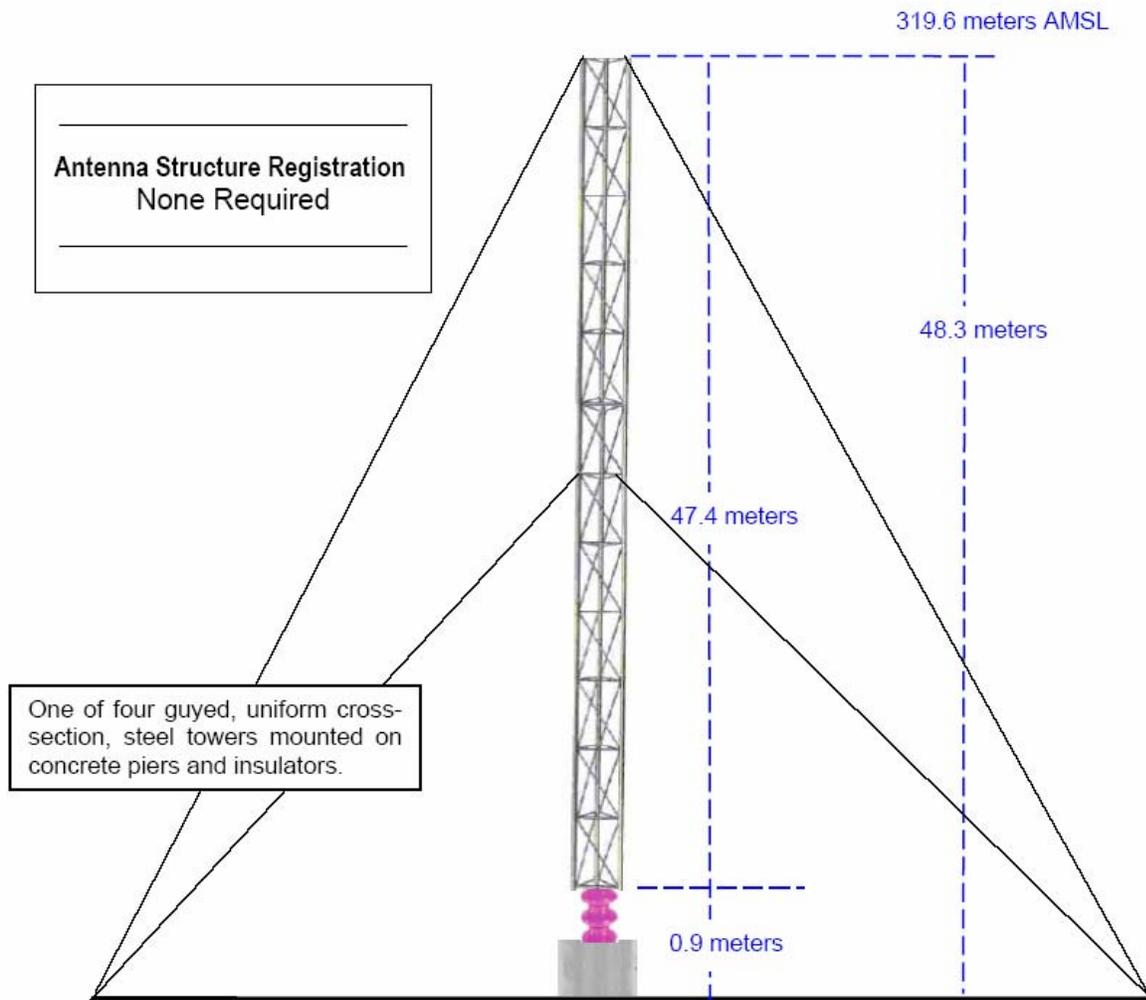
## VERTICAL PLAN OF NIGHTTIME ANTENNA SYSTEM

This site is located in the Minerva Park area in the City of Columbus, Ohio.

### Antenna Tower

40° 03' 42" North Latitude

82° 56' 41" West Longitude

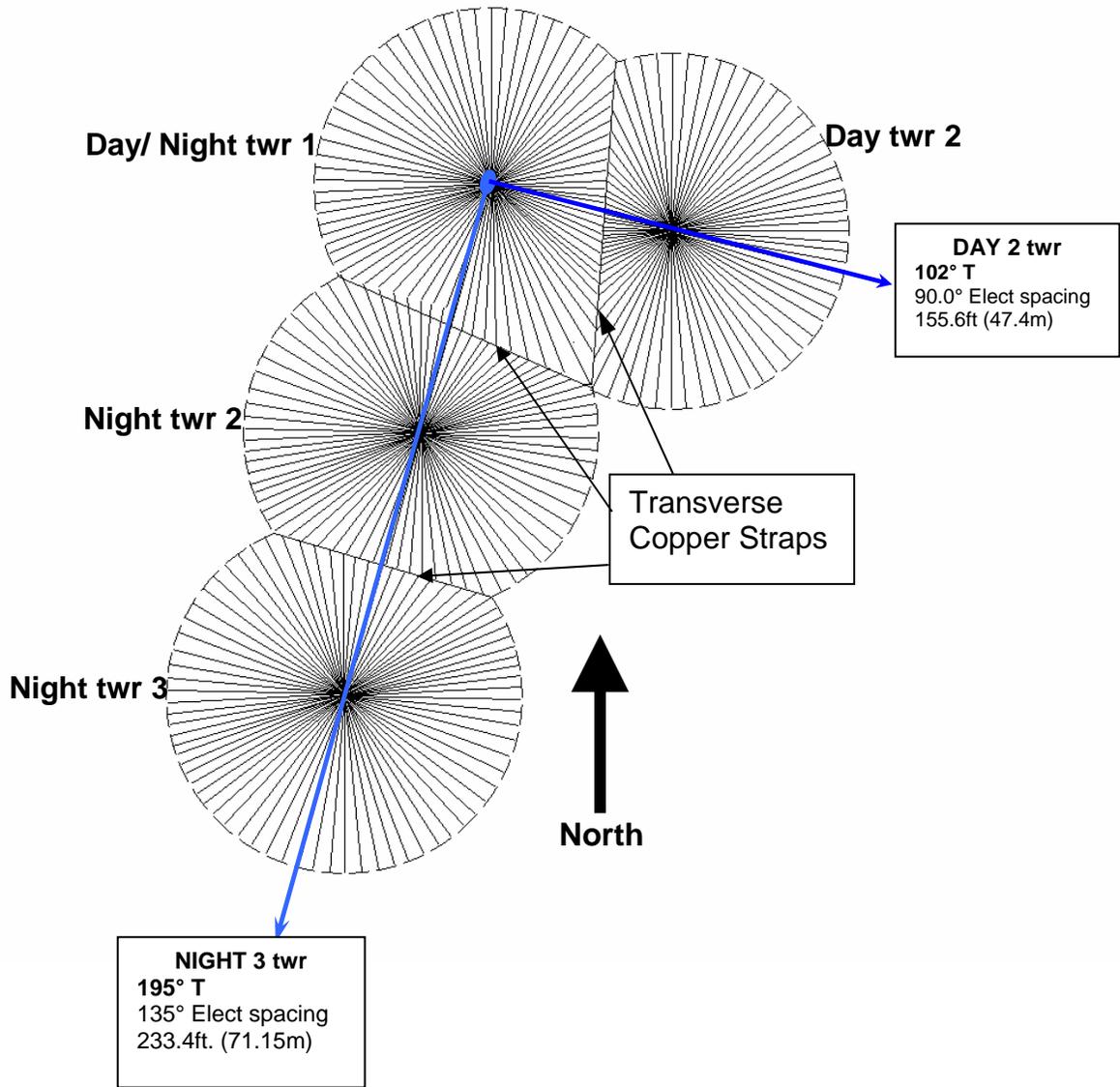


Ground elevation: 264m AMSL

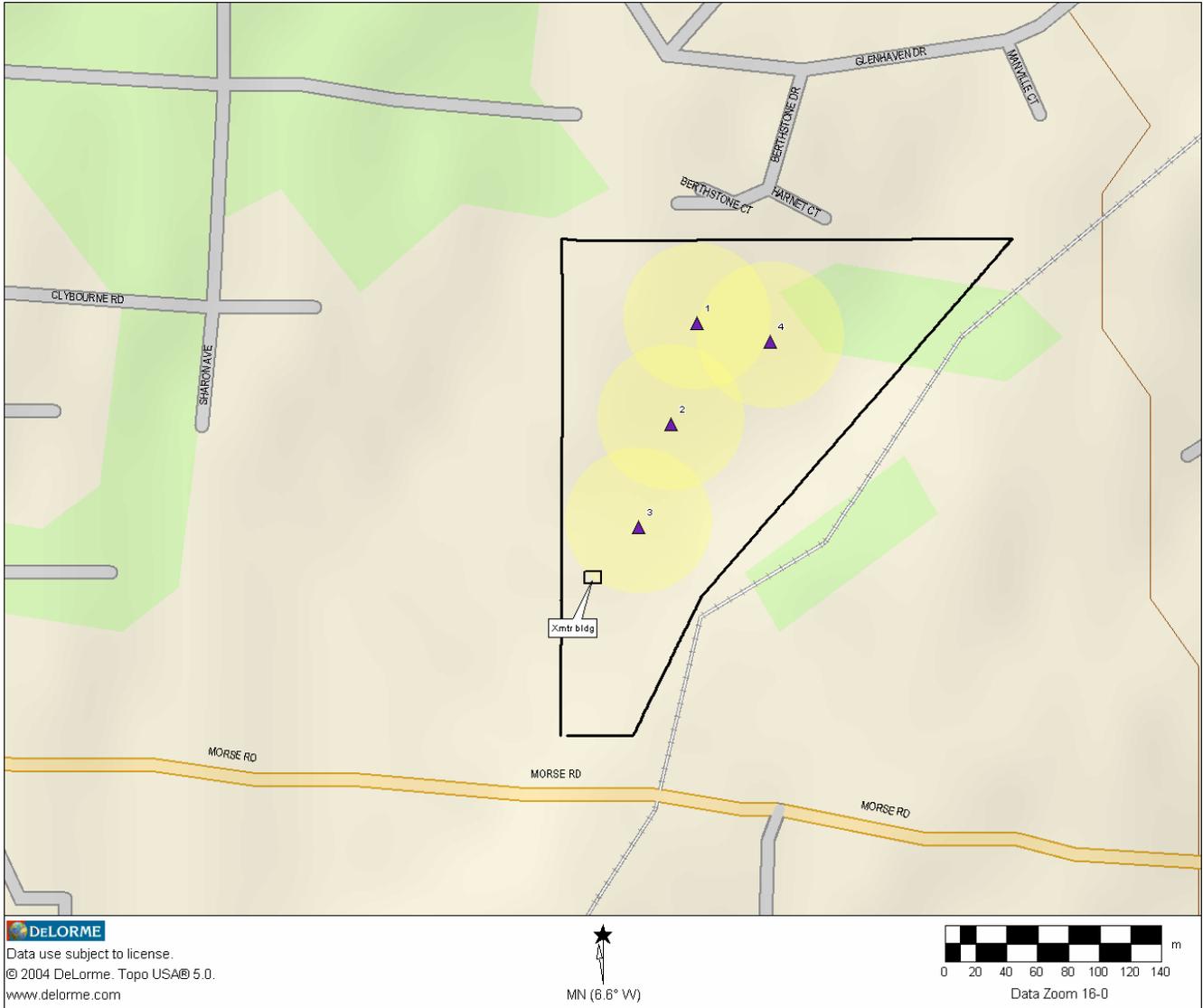
Drawing is not to scale

Actual number and location of guy wires may vary

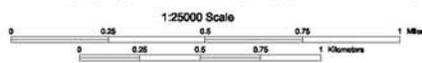
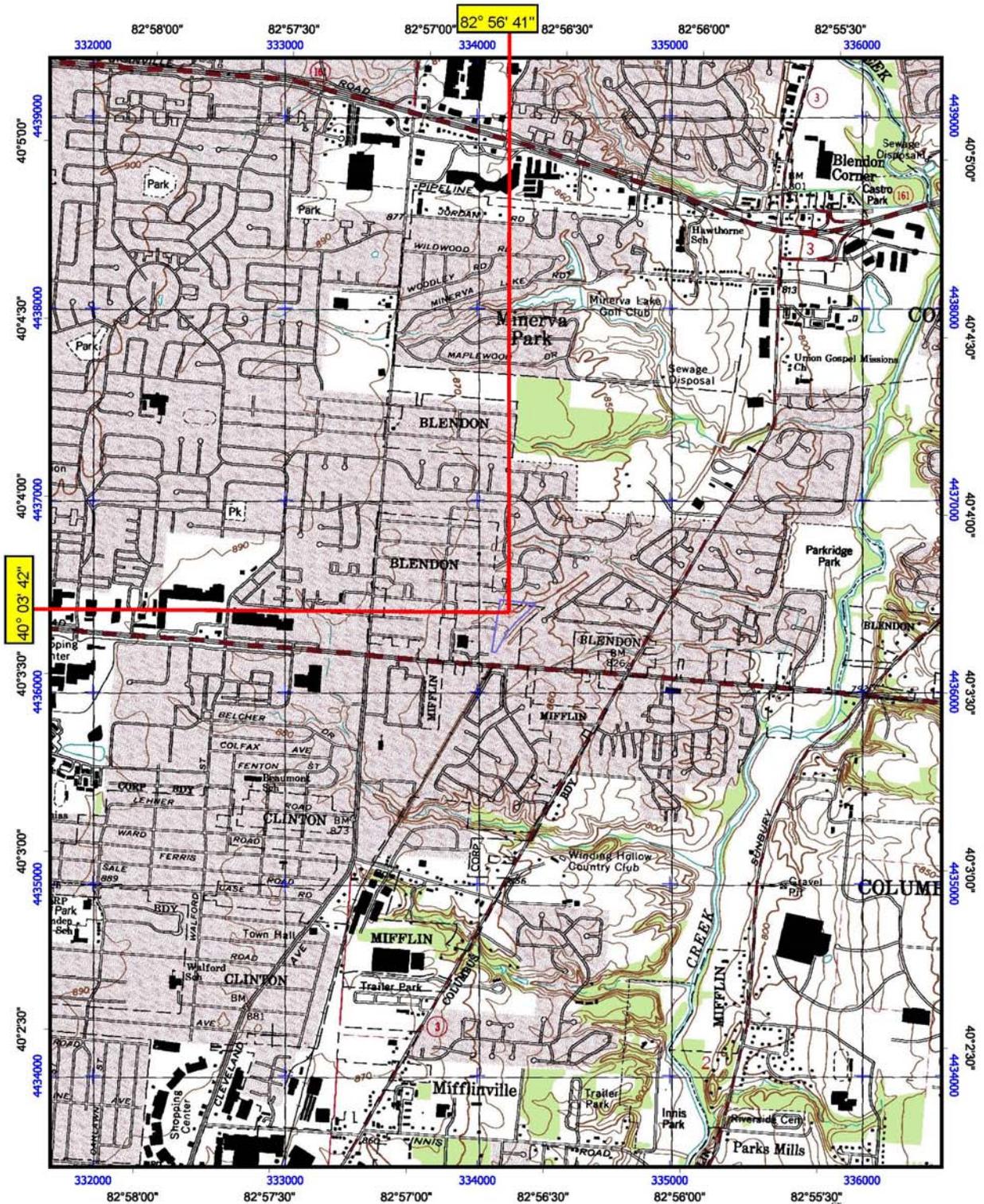
EXHIBIT 11.3  
Horizontal Plat of Antenna Array



# Exhibit 11.3a WVKO TOWER LAYOUT



# Exhibit 11.4 Topographical Map of Proposed Site



Universal Transverse Mercator (UTM) Projection Zone 17  
 North American Datum of 1983 (NAD83)  
 UTM Grid shown in Blue

Magnetic declination at center of map on  
 February 13, 2006

Map produced by [www.myTopo.com](http://www.myTopo.com)  
 Copyright 2005 AOHart, LLC

**Exhibit 11.5**

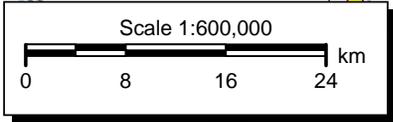
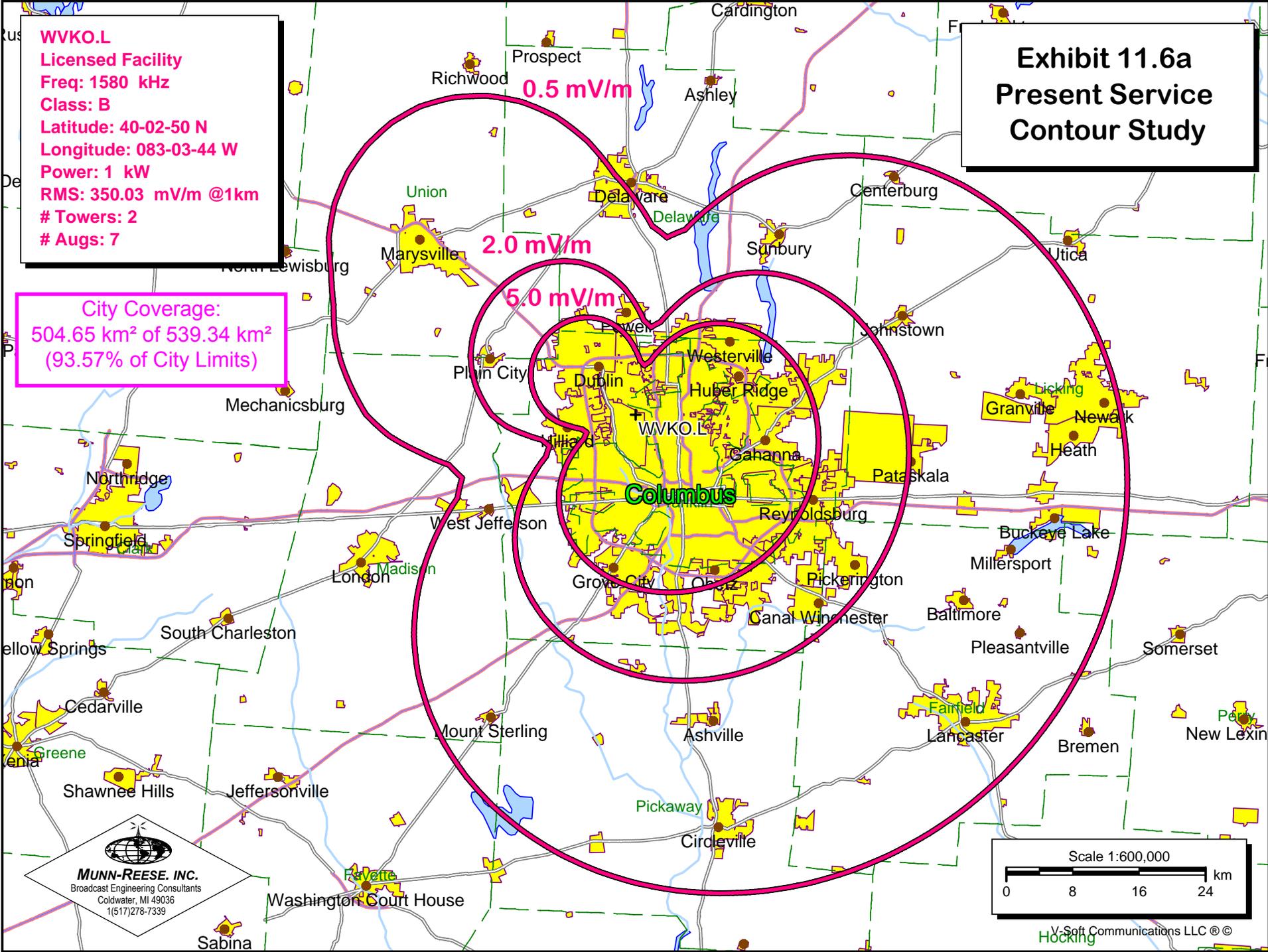
**Aerial Photograph of Proposed WVKO Site**



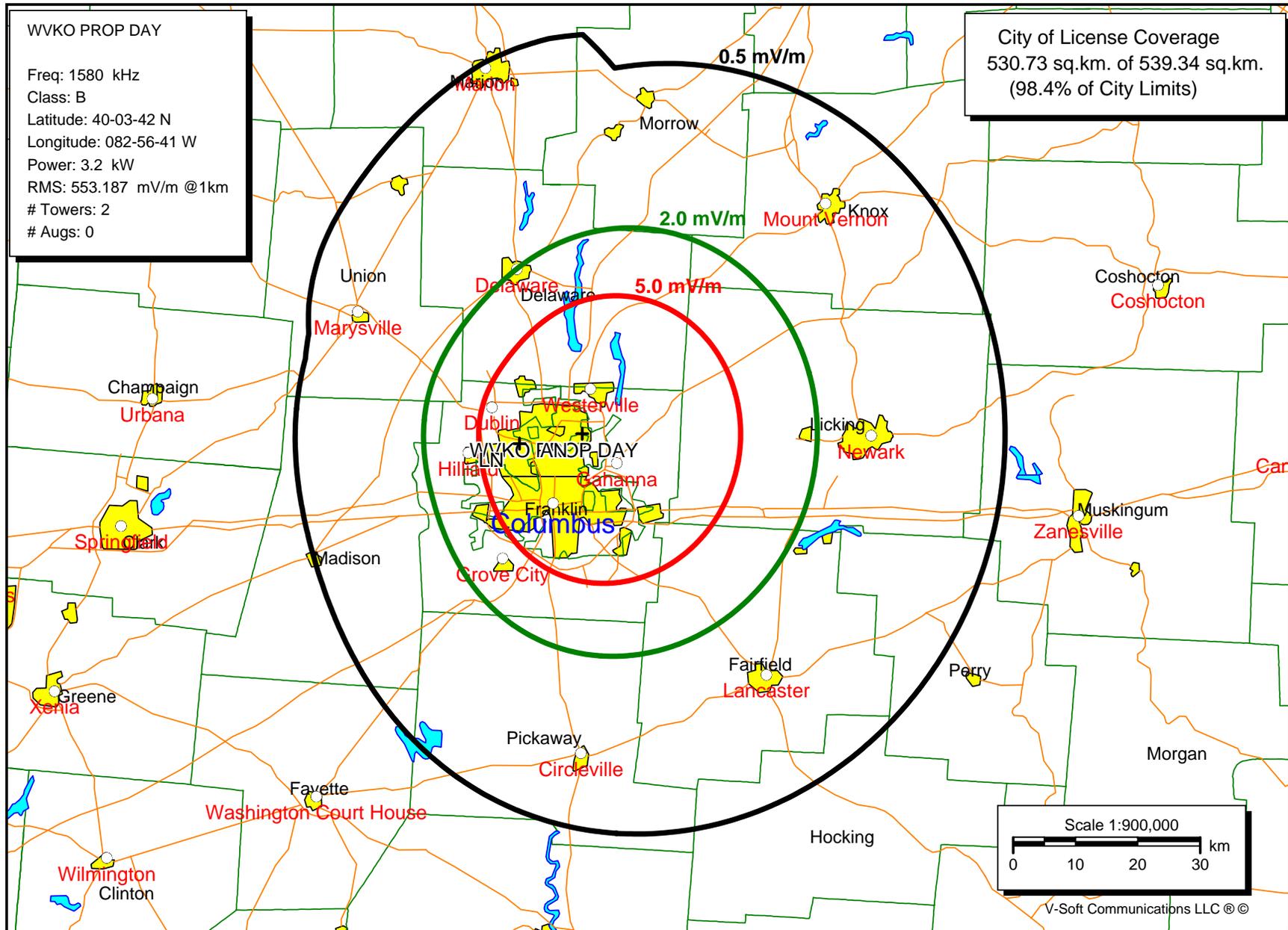
# Exhibit 11.6a Present Service Contour Study

**WVKO.L**  
 Licensed Facility  
 Freq: 1580 kHz  
 Class: B  
 Latitude: 40-02-50 N  
 Longitude: 083-03-44 W  
 Power: 1 kW  
 RMS: 350.03 mV/m @1km  
 # Towers: 2  
 # Augs: 7

City Coverage:  
 504.65 km<sup>2</sup> of 539.34 km<sup>2</sup>  
 (93.57% of City Limits)



# Exhibit 11.6b Proposed Service Contour Study

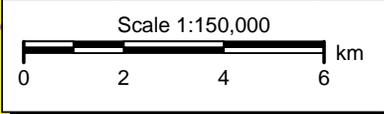
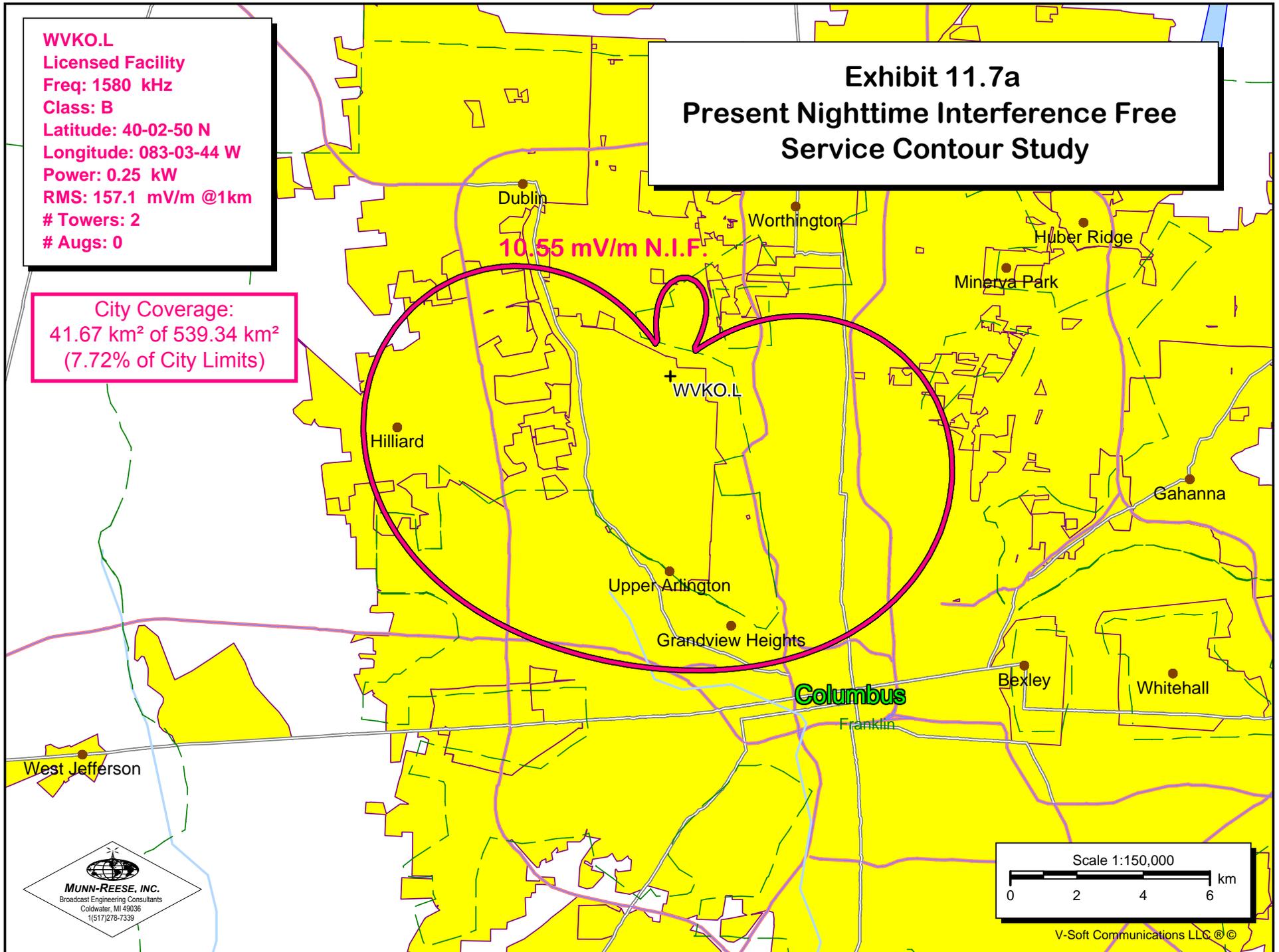


**WVKO.L**  
Licensed Facility  
Freq: 1580 kHz  
Class: B  
Latitude: 40-02-50 N  
Longitude: 083-03-44 W  
Power: 0.25 kW  
RMS: 157.1 mV/m @1km  
# Towers: 2  
# Augs: 0

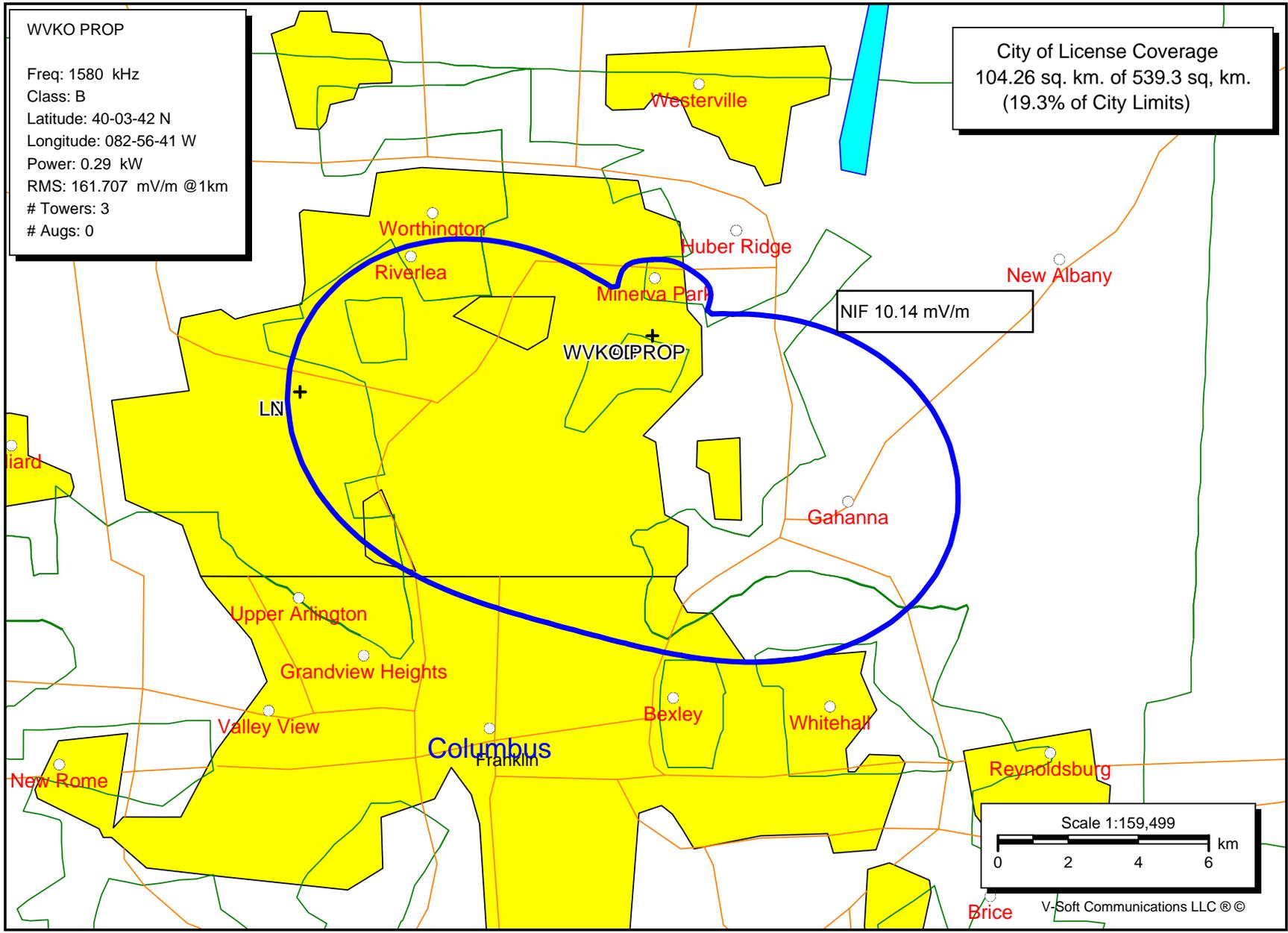
City Coverage:  
41.67 km<sup>2</sup> of 539.34 km<sup>2</sup>  
(7.72% of City Limits)

## Exhibit 11.7a Present Nighttime Interference Free Service Contour Study

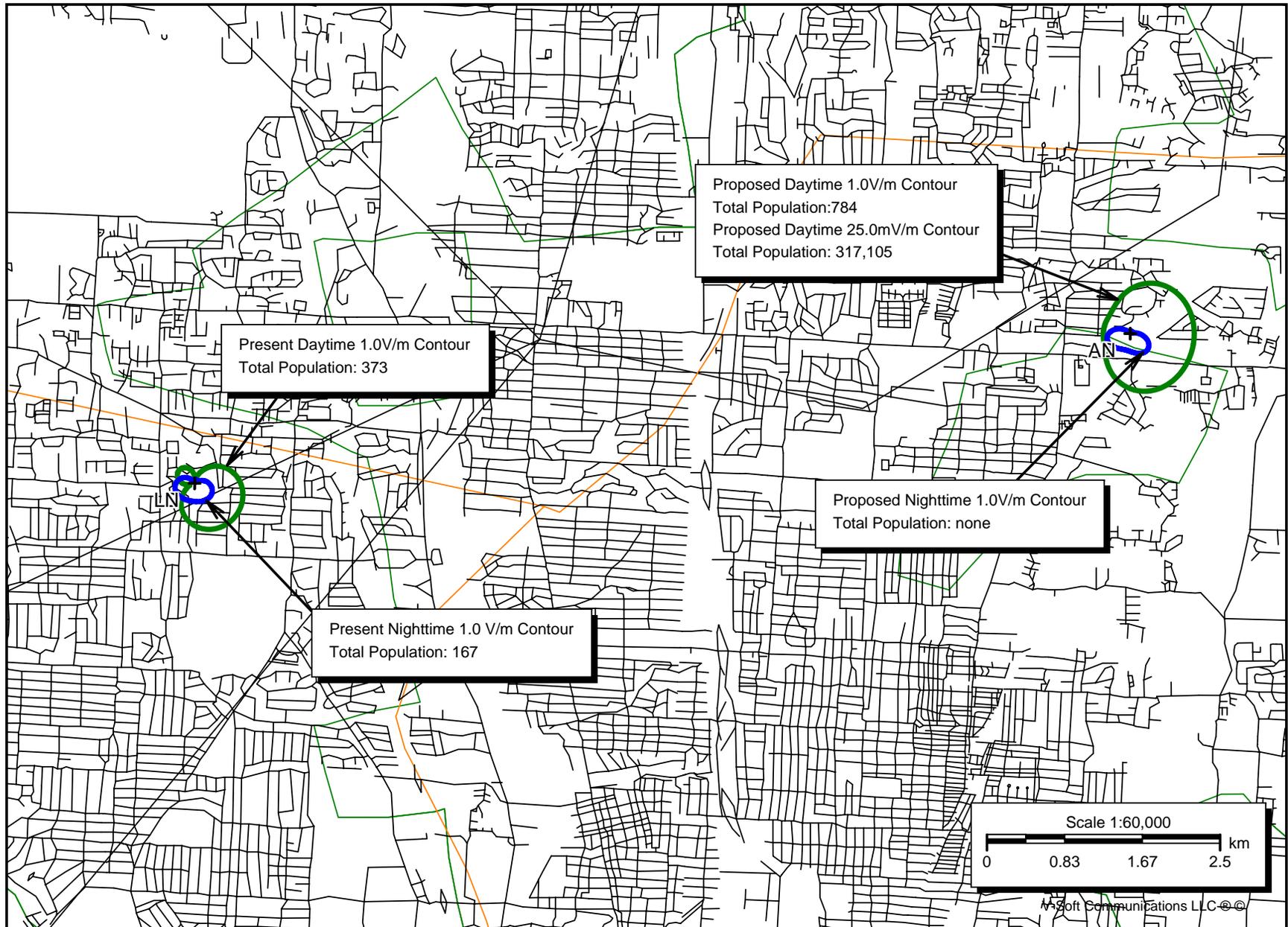
10.55 mV/m N.I.F.



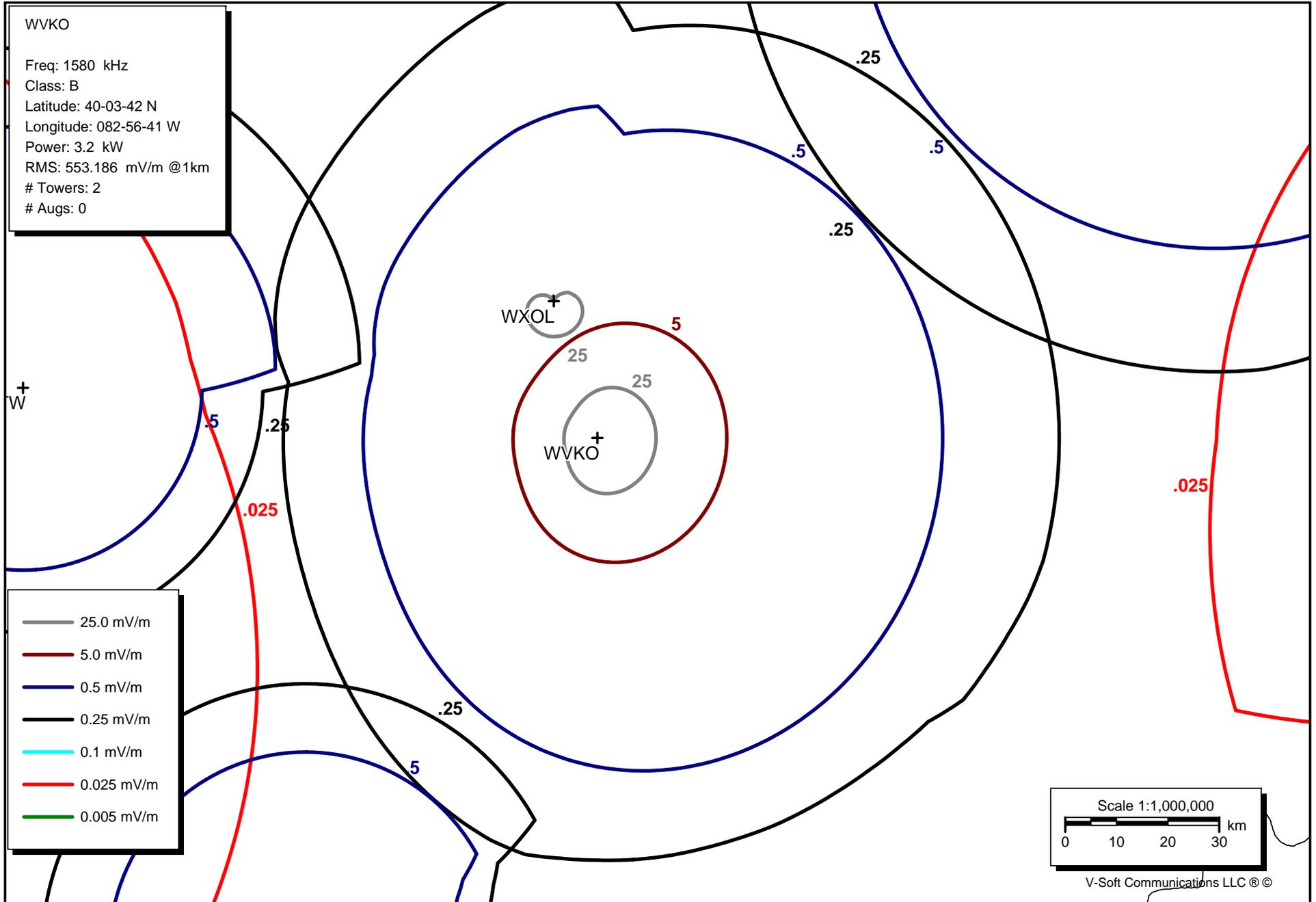
# Exhibit 11.7b Proposed Nighttime Interference Free Service



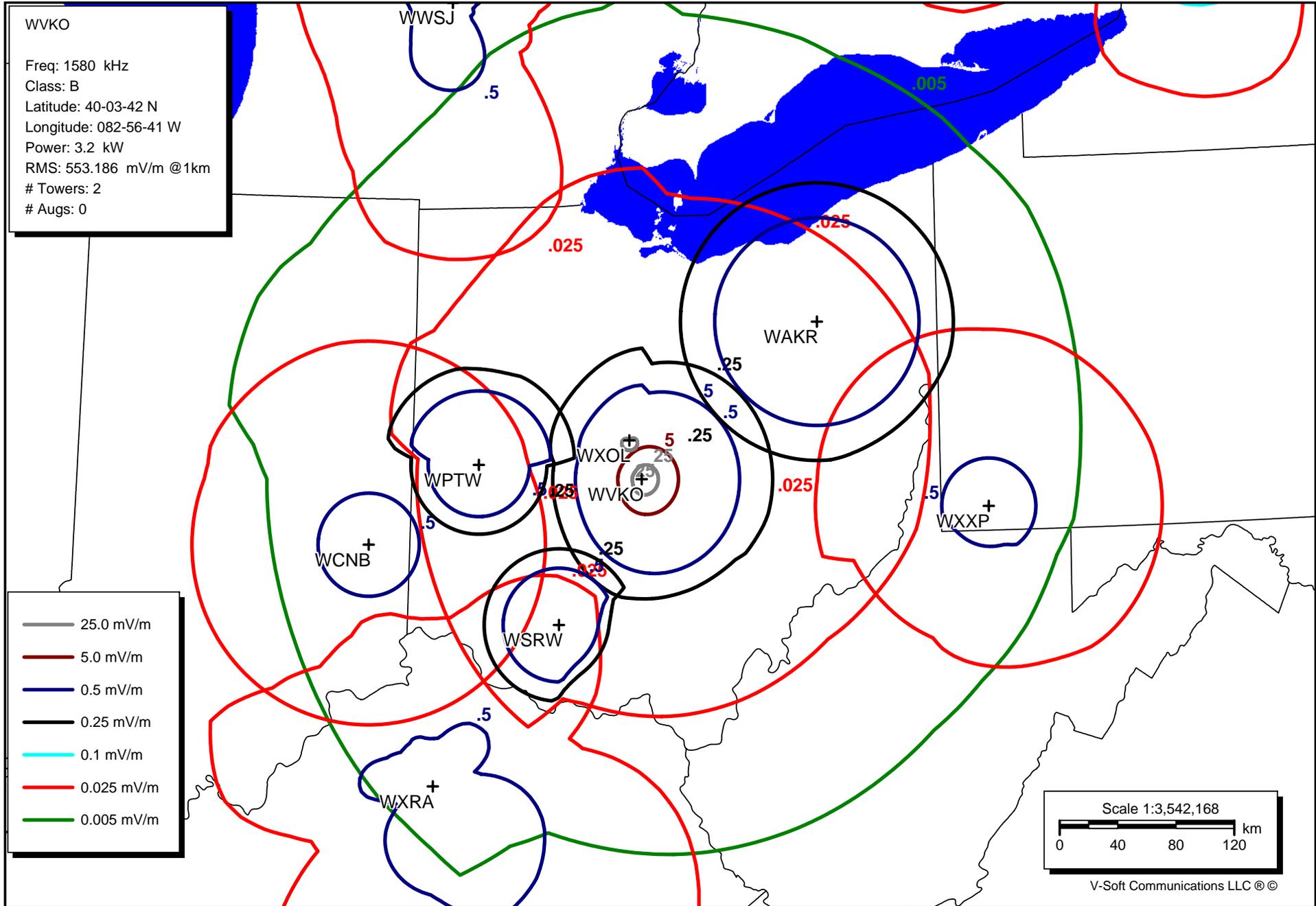
# Exhibit 11.8 Present and Proposed 1.0V/m "Blanket" Contour Study



# Exhibit 15.1(a) Proposed Daytime contours close-in



# Exhibit 15.1(b) Proposed Daytime contours



## AM Daytime Study

## Reference Station:

Call: WVKO

Freq: 1580 kHz

COLUMBUS, OH, US

Lat: 40-03-42 N

Power: 3.2 kW

Lng: 082-56-41 W

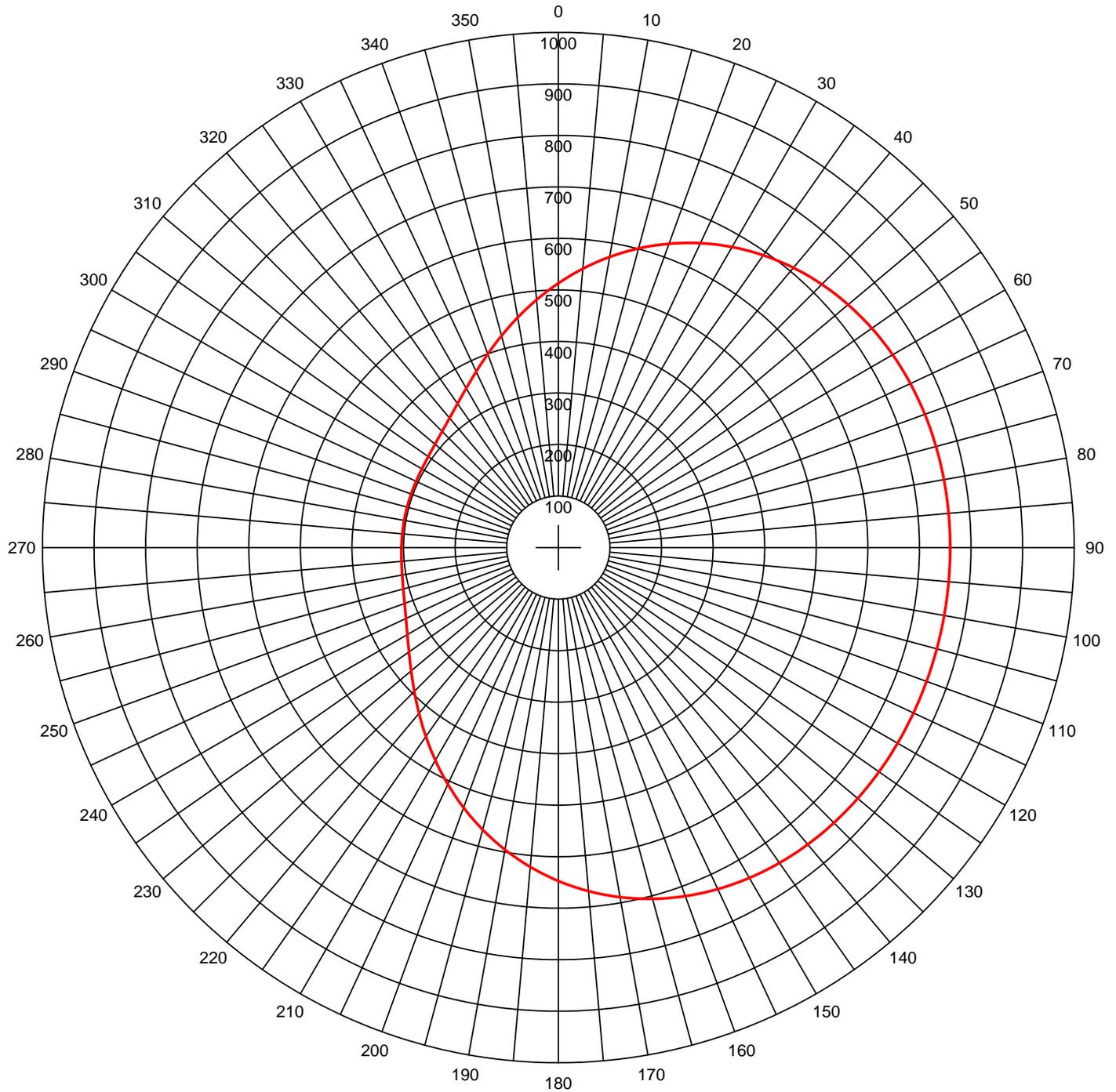
Theo RMS: 553.19 mV/m @ 1km

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	90.0	0	0	0.0	0.0	0.0	0.0
2	0.430	-88.4	90.0	102.0	90.0	0	0	0.0	0.0	0.0	0.0

Call	Freq	City	ST	Dist	Azi	In	Out
WSRW	1590	HILLSBORO	OH	114.5	209.6	7.10	1.25
WAKR	1590	AKRON	OH	161.9	49.3	0.76	1.99
WCNB	1580	CONNERSVILLE	IN	194.4	255.3	25.57	2.50
WXOL	1550	DELAWARE	OH	27.7	341.8	12.94	12.94
WXXP	1580	WAYNESBURG	PA	241.1	96.0	53.17	13.29
WPTW	1570	PIQUA	OH	113.2	274.0	20.16	16.44
WXRA	1580	GEORGETOWN	KY	254.0	213.6	30.80	24.74
WULM	1600	SPRINGFIELD	OH	79.8	261.0	44.66	44.66
WTNS	1560	COSHOCTON	OH	98.1	76.4	55.48	55.48
WKKS	1570	VANCEBURG	KY	166.2	191.9	72.98	61.71
NEW	1570	ELIZABETH	WV	173.2	130.3	72.18	63.87
WTTF	1600	TIFFIN	OH	120.6	348.3	92.11	92.11
WANR	1570	WARREN	OH	218.7	55.2	103.43	93.01
WWSJ	1580	ST. JOHNS	MI	349.7	336.9	125.33	101.11
WCNW	1560	FAIRFIELD	OH	157.5	238.9	121.20	121.20
WNTS	1590	BEECH GROVE	IN	271.5	261.4	161.78	162.23
WHLX	1590	MARINE CITY	MI	298.3	7.0	167.49	165.65
WQTW	1570	LATROBE	PA	306.0	86.2	194.44	183.30
CHUC	1580	COBOURG	ON	583.2	43.8	402.83	192.11
WWSZ	1570	NEW ALBANY	IN	311.6	231.0	193.65	194.18
WAMW	1580	WASHINGTON	IN	405.3	245.8	188.29	195.68
WILO	1570	FRANKFORT	IN	302.5	273.4	195.85	196.35
WWCK	1570	FLINT	MI	332.8	349.6	210.49	201.61

Negative values in the "In" and "Out" columns reflect km<sup>2</sup> areas of Incoming and Outgoing overlap respectively. Positive values reflect linear distance of clearance to the offending contour on the direct line of bearing only. In response to FCC attempts to streamline the application process, tabulations of distances to contours and Map M-3 Conductivities for each station have been omitted. Tabulations will be supplied upon request.

# Exhibit 15.3 - WVKO Proposed Daytime Pattern



Theo RMS: 553.186 mV/m@1km  
 Std RMS: 581.149 mV/m@1km  
 Q: 17.889 mV/m@1km

Horizontal Plane Standard Pattern

— Pattern (mV/m @ 1km)  
 — Pattern X10

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	90.0	0	0	0.0	0.0	0.0	0.0
2	0.430	-88.4	90.0	102.0	90.0	0	0	0.0	0.0	0.0	0.0

Call: WVKO  
 Freq: 1580 kHz  
 COLUMBUS, OH, US  
 Lat: 40-03-42 N  
 Lng: 082-56-41 W  
 Power: 3.2 kW  
 Theo RMS: 553.19 mV/m @ 1km

# Exhibit 15.4

## Tabulation of Proposed Daytime Standard Pattern

### AM Radiation Report

Call: WVKO PROP DAY  
 Freq: 1580 kHz  
 COLUMBUS, OH, US  
 Lat: 40-03-42 N  
 Lng: 082-56-41 W  
 Power: 3.2 kW  
 Theo RMS: 553.19 mV/m @ 1km

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	90.0	0	0	0.0	0.0	0.0	0.0
2	0.430	-88.4	90.0	102.0	90.0	0	0	0.0	0.0	0.0	0.0

### Standard Horizontal Plane Pattern

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	513.00	120.0	759.47	240.0	337.95
5.0	543.19	125.0	758.91	245.0	325.91
10.0	572.73	130.0	757.72	250.0	317.11
15.0	601.00	135.0	755.61	255.0	311.09
20.0	627.48	140.0	752.26	260.0	307.31
25.0	651.76	145.0	747.33	265.0	305.15
30.0	673.54	150.0	740.50	270.0	304.07
35.0	692.62	155.0	731.48	275.0	303.61
40.0	708.93	160.0	720.00	280.0	303.46
45.0	722.50	165.0	705.89	285.0	303.47
50.0	733.47	170.0	689.02	290.0	303.67
55.0	742.03	175.0	669.39	295.0	304.22
60.0	748.46	180.0	647.10	300.0	305.48
65.0	753.04	185.0	622.35	305.0	307.92
70.0	756.12	190.0	595.47	310.0	312.10
75.0	758.03	195.0	566.90	315.0	318.63
80.0	759.07	200.0	537.18	320.0	328.04
85.0	759.53	205.0	506.94	325.0	340.77
90.0	759.66	210.0	476.87	330.0	357.02
95.0	759.64	215.0	447.70	335.0	376.76
100.0	759.61	220.0	420.15	340.0	399.74
105.0	759.61	225.0	394.90	345.0	425.49
110.0	759.65	230.0	372.54	350.0	453.42
115.0	759.65	235.0	353.48	355.0	482.84

# Exhibit 15.5 WVCO Radiation Limits Report

Frequency: 1580 kHz

Latitude: 40-03-42 N      Longitude: 082-56-41 W

\* indicates contour of proposed station

Azi (deg)	Rad Limit (mV/m@1km)	Call Letters	Contour Overlap	Azi (deg)	Rad Limit (mV/m@1km)	Call Letters	Contour Overlap
0	8353.7	WHLX	[0.500 0.250*]	180	9999.9	No Limit	
5	9999.9	No Limit		185	5493.0	WKKS	[0.500 0.250*]
10	9999.9	No Limit		190	926.1	WSRW	[0.500* 0.250]
15	2114.9	WAKR	[0.500* 0.250]	195	769.2	WSRW	[0.500* 0.250]
20	1400.6	WAKR	[0.500* 0.250]	200	556.6	WSRW	[0.500 0.250*]
25	1103.3	WAKR	[0.500* 0.250]	205	509.8	WSRW	[0.500 0.250*]
30	939.2	WAKR	[0.500* 0.250]	210	496.2	WSRW	[0.500 0.250*]
35	841.2	WAKR	[0.500* 0.250]	215	510.0	WSRW	[0.500 0.250*]
40	783.7	WAKR	[0.500* 0.250]	220	557.1	WSRW	[0.500 0.250*]
45	755.2	WAKR	[0.500* 0.250]	225	666.5	WSRW	[0.500 0.250*]
50	751.0	WAKR	[0.500* 0.250]	230	928.0	WSRW	[0.500* 0.250]
55	770.5	WAKR	[0.500* 0.250]	235	1174.7	WCNB	[0.500* 0.025]
60	816.5	WAKR	[0.500* 0.250]	240	1033.9	WCNB	[0.500* 0.025]
65	898.1	WAKR	[0.500* 0.250]	245	946.9	WCNB	[0.500* 0.025]
70	1033.8	WAKR	[0.500* 0.250]	250	365.7	WCNB	[0.500 0.025*]
75	1269.9	WAKR	[0.500* 0.250]	255	326.2	WCNB	[0.500 0.025*]
80	1758.0	WAKR	[0.500* 0.250]	260	332.5	WCNB	[0.500 0.025*]
85	3237.9	WXXP	[0.500* 0.025]	265	397.8	WCNB	[0.500 0.025*]
90	993.7	WXXP	[0.500 0.025*]	270	545.9	WPTW	[0.500 0.250*]
95	959.4	WXXP	[0.500 0.025*]	275	530.9	WPTW	[0.500 0.250*]
100	1410.5	WXXP	[0.500 0.025*]	280	368.6	WPTW	[0.500 0.250*]
105	4039.1	WXXP	[0.500* 0.025]	285	307.8	WPTW	[0.500 0.250*]
110	4772.7	WXXP	[0.500* 0.025]	290	316.0	WPTW	[0.500 0.250*]
115	9999.9	No Limit		295	351.8	WPTW	[0.500* 0.250]
120	9225.8	NEW	[0.500* 0.250]	300	385.8	WPTW	[0.500* 0.250]
125	4978.7	NEW	[0.500 0.250*]	305	463.8	WPTW	[0.500* 0.250]
130	5067.9	NEW	[0.500 0.250*]	310	707.7	WPTW	[0.500* 0.250]
135	5909.3	NEW	[0.500 0.250*]	315	9999.9	No Limit	
140	9999.9	No Limit		320	8696.3	WWSJ	[0.500* 0.025]
145	9999.9	No Limit		325	7184.6	WWSJ	[0.500* 0.025]
150	9999.9	No Limit		330	3242.4	WXOL	[25.000 25.000*]
155	9999.9	No Limit		335	1831.7	WWSJ	[0.500 0.025*]
160	9999.9	No Limit		340	2477.4	WXOL	[25.000 25.000*]
165	9999.9	No Limit		345	2514.9	WXOL	[25.000 25.000*]
170	9999.9	No Limit		350	2805.4	WXOL	[25.000 25.000*]
175	9999.9	No Limit		355	9999.9	No Limit	

## Exhibit 15.6 WVKO Conductivity Report

Latitude: 40-03-42 N  
 Longitude: 082-56-41 W

Conductivity Database Used: US M3

Ground Conductivity Data:  
 Region conductivity in mS/m followed by distance in km  
 Azimuth to the end of region. E - map data; M - measurement data.

Azimuth	Conductivity (mS/m)	Distance (km)								
0.0	8.0E	38.6	15.0E	150.1	8.0E	157.1	15.0E	162.5	8.0E	194.9
	10.0E	214.7	20.0E	255.9	8.0E	265.3	15.0E	445.2	8.0E	602.2
	10.0E	640.3	4.0E	652.9	10.0E	679.6	2.0E	1048.4	6.0E	1108.0
	2.0E	1609.2	5000.0E	2500.0						
5.0	8.0E	132.1	15.0E	156.5	8.0E	160.6	15.0E	165.4	8.0E	185.3
	10.0E	219.3	20.0E	287.2	15.0E	288.6	20.0E	290.9	15.0E	372.9
	8.0E	544.3	10.0E	623.1	4.0E	653.5	10.0E	676.6	2.0E	974.3
	6.0E	1118.0	2.0E	1344.0	5000.0E	2500.0				
10.0	8.0E	182.2	10.0E	209.6	20.0E	211.7	10.0E	223.2	20.0E	336.9
	10.0E	579.8	4.0E	586.9	10.0E	668.9	2.0E	965.2	6.0E	1080.0
	2.0E	1255.6	5000.0E	1520.3	2.0E	1609.2	2.0E	1609.3	5000.0E	1609.3
	2.0E	2500.0								
15.0	8.0E	187.7	10.0E	248.8	20.0E	364.0	6.0E	378.7	10.0E	384.8
	6.0E	500.8	4.0E	560.0	10.0E	668.3	2.0E	976.6	6.0E	1079.0
	2.0E	1267.3	2.0E	1609.2	2.0E	1609.3	5000.0E	2500.0		
20.0	8.0E	206.8	10.0E	259.5	20.0E	267.4	10.0E	275.9	20.0E	372.3
	6.0E	492.2	4.0E	542.3	10.0E	628.6	1.0E	630.7	10.0E	633.6
	1.0E	641.7	2.0E	1013.8	6.0E	1080.6	2.0E	1609.2	2.0E	1609.3
	5000.0E	1609.3	2.0E	1609.3	5000.0E	2500.0				
25.0	8.0E	233.6	10.0E	319.2	20.0E	365.2	4.0E	391.2	6.0E	464.0
	4.0E	581.8	10.0E	590.4	1.0E	729.1	2.0E	1040.9	2.0E	1609.2
	2.0E	2500.0								
30.0	8.0E	266.0	10.0E	335.1	4.0E	545.6	6.0E	606.6	1.0E	800.4
	2.0E	1012.8	2.0E	1609.2	2.0E	1609.3	5000.0E	2500.0		
35.0	8.0E	297.4	10.0E	344.1	4.0E	384.2	20.0E	445.9	15.0E	490.9
	6.0E	638.4	1.0E	766.2	4.0E	829.4	2.0E	1038.3	2.0E	1609.2
	2.0E	1609.3	5000.0E	2500.0						
40.0	8.0E	332.4	10.0E	365.7	4.0E	366.2	10.0E	412.0	20.0E	465.7
	15.0E	482.6	8.0E	514.0	15.0E	574.7	6.0E	621.6	4.0E	713.7
	1.0E	754.8	4.0E	856.3	2.0E	1142.8	2.0E	1609.2	5000.0E	2500.0
45.0	8.0E	284.3	4.0E	327.2	8.0E	430.2	10.0E	452.1	20.0E	462.6
	8.0E	571.7	15.0E	629.1	4.0E	662.8	15.0E	664.7	10.0E	719.7
	4.0E	779.2	10.0E	917.6	4.0E	939.7	2.0E	1238.2	4.0E	1382.2
	2.0E	1418.9	5000.0E	1609.2	2.0E	2500.0				
50.0	8.0E	305.3	4.0E	493.3	8.0E	571.9	4.0E	572.8	8.0E	638.1
	15.0E	647.9	8.0E	707.1	4.0E	910.1	10.0E	1011.1	6.0E	1140.0
	4.0E	1297.9	1.0E	1372.4	2.0E	1609.2	5000.0E	1609.3	2.0E	1609.3
	5000.0E	1609.3	2.0E	1609.3	5000.0E	1609.3	1.0E	1609.3	5000.0E	1609.3
	1.0E	1609.3	5000.0E	2500.0						
55.0	8.0E	320.7	2.0E	351.6	4.0E	911.2	2.0E	1018.3	0.5E	1056.7
	4.0E	1099.1	0.5E	1117.2	4.0E	1151.4	1.0E	1154.0	4.0E	1163.7
	1.0E	1412.4	2.0E	1609.2	5000.0E	1609.3	1.0E	1609.3	5000.0E	1609.3
	1.0E	1609.3	5000.0E	1609.3	1.0E	1609.3	5000.0E	2500.0		
60.0	8.0E	292.8	2.0E	378.8	4.0E	817.5	2.0E	962.1	0.5E	1021.6
	1.0E	1127.6	2.0E	1314.0	1.0E	1390.4	2.0E	1583.3	4.0E	1609.2
	5000.0E	1609.3	4.0E	1609.3	5000.0E	1609.3	1.0E	1609.3	5000.0E	1609.3
	1.0E	1609.3	5000.0E	1609.3	1.0E	1609.3	5000.0E	1609.3	1.0E	1609.3
	5000.0E	1609.3	1.0E	1609.3	5000.0E	1609.3	1.0E	2500.0		

65.0	8.0E	262.0	4.0E	280.8	2.0E	415.5	4.0E	876.4	2.0E	899.9
	1.0E	1045.4	2.0E	1124.5	5000.0E	1155.6	2.0E	1159.3	5000.0E	1475.5
	2.0E	1609.2	5000.0E	2500.0						
70.0	8.0E	209.6	4.0E	292.5	2.0E	471.7	4.0E	854.8	1.0E	1014.3
	2.0E	1053.2	5000.0E	2500.0						
75.0	8.0E	172.6	4.0E	307.3	2.0E	565.1	4.0E	715.8	2.0E	723.1
	4.0E	799.2	1.0E	851.1	2.0E	989.1	5000.0E	989.8	2.0E	1059.0
	5000.0E	1097.2	2.0E	1099.1	5000.0E	1101.6	2.0E	1105.1	5000.0E	2500.0
80.0	8.0E	148.6	4.0E	323.7	2.0E	396.6	4.0E	448.7	2.0E	638.8
	4.0E	689.1	2.0E	735.1	4.0E	784.5	5000.0E	803.3	4.0E	804.1
	5000.0E	811.0	4.0E	813.5	5000.0E	833.7	0.5E	846.2	5000.0E	863.2
	0.5E	886.4	5000.0E	897.6	0.5E	928.2	5000.0E	2500.0		
85.0	8.0E	131.6	4.0E	347.6	2.0E	371.9	4.0E	442.6	2.0E	523.0
	4.0E	761.0	5000.0E	2500.0						
90.0	8.0E	118.3	4.0E	426.6	2.0E	495.8	4.0E	641.2	5000.0E	646.0
	4.0E	750.6	5000.0E	2500.0						
95.0	8.0E	107.7	4.0E	408.4	2.0E	547.8	4.0E	573.7	40.0E	576.3
	4.0E	582.6	40.0E	593.8	4.0E	594.1	40.0E	603.3	4.0E	647.2
	5000.0E	661.0	4.0E	717.0	5000.0E	2500.0				
100.0	8.0E	99.5	4.0E	195.0	2.0E	254.6	4.0E	390.5	2.0E	530.4
	4.0E	561.0	40.0E	564.2	4.0E	567.7	40.0E	570.4	4.0E	571.0
	40.0E	590.1	4.0E	594.0	40.0E	596.3	4.0E	692.8	5000.0E	2500.0
105.0	8.0E	93.1	4.0E	170.1	2.0E	242.5	4.0E	361.6	2.0E	515.2
	4.0E	524.5	5000.0E	526.6	4.0E	578.6	5000.0E	594.0	2.0E	636.8
	5000.0E	639.0	2.0E	695.7	5000.0E	2500.0				
110.0	8.0E	87.8	4.0E	148.9	2.0E	233.1	4.0E	319.3	2.0E	525.6
	4.0E	596.6	5000.0E	670.1	2.0E	688.2	5000.0E	2500.0		
115.0	8.0E	83.7	4.0E	128.1	2.0E	232.4	4.0E	265.3	2.0E	651.8
	5000.0E	678.0	2.0E	685.9	5000.0E	2500.0				
120.0	8.0E	80.5	4.0E	110.3	2.0E	647.9	4.0E	661.1	5000.0E	665.4
	4.0E	673.1	5000.0E	674.6	4.0E	717.5	5000.0E	2500.0		
125.0	8.0E	78.1	4.0E	93.4	2.0E	674.6	4.0E	720.3	5000.0E	750.3
	4.0E	757.9	5000.0E	766.2	4.0E	798.1	5000.0E	2500.0		
130.0	8.0E	76.1	2.0E	707.5	4.0E	750.6	5000.0E	755.4	4.0E	769.6
	5000.0E	777.2	4.0E	779.9	5000.0E	2500.0				
135.0	8.0E	74.0	2.0E	463.6	4.0E	511.0	2.0E	707.7	4.0E	767.9
	5000.0E	771.4	4.0E	803.5	5000.0E	2500.0				
140.0	8.0E	72.6	2.0E	453.1	4.0E	586.9	2.0E	623.3	4.0E	786.8
	5000.0E	2500.0								
145.0	8.0E	71.8	2.0E	461.7	4.0E	605.5	2.0E	711.0	4.0E	801.8
	5000.0E	805.6	4.0E	809.3	5000.0E	2500.0				
150.0	8.0E	71.5	2.0E	515.8	4.0E	598.7	2.0E	706.6	4.0E	791.5
	5000.0E	2500.0								
155.0	8.0E	71.7	2.0E	527.0	4.0E	609.7	2.0E	705.9	4.0E	810.9
	5000.0E	813.7	4.0E	821.2	5000.0E	824.7	4.0E	830.0	5000.0E	2500.0
160.0	8.0E	71.7	2.0E	341.0	4.0E	388.4	2.0E	563.5	4.0E	632.3
	2.0E	706.4	4.0E	858.6	5000.0E	2500.0				
165.0	8.0E	72.3	2.0E	339.7	4.0E	398.1	2.0E	589.3	4.0E	659.3
	2.0E	714.5	4.0E	864.7	5000.0E	865.5	4.0E	871.0	8.0E	880.8
	5000.0E	2500.0								
170.0	8.0E	73.4	2.0E	344.2	4.0E	411.2	2.0E	604.2	4.0E	694.0
	2.0E	758.9	4.0E	916.8	8.0E	944.0	5000.0E	947.0	8.0E	954.3
	5000.0E	1356.3	8.0E	1605.6	5000.0E	2500.0				
175.0	8.0E	74.6	2.0E	350.2	4.0E	428.5	2.0E	605.8	4.0E	744.6
	2.0E	812.5	4.0E	1136.8	2.0E	1417.1	8.0E	1575.4	5000.0E	2500.0
180.0	8.0E	76.0	2.0E	358.9	4.0E	451.4	2.0E	621.2	4.0E	985.4
	2.0E	1117.0	4.0E	1210.6	5000.0E	2500.0				
185.0	8.0E	78.0	2.0E	370.3	4.0E	371.0	2.0E	661.8	4.0E	995.8
	2.0E	1115.5	5000.0E	2500.0						
190.0	8.0E	80.7	2.0E	674.8	1.0E	768.8	4.0E	1063.3	2.0E	1084.1
	1.0E	1166.2	5000.0E	2500.0						
195.0	8.0E	84.6	2.0E	266.0	8.0E	283.8	2.0E	564.0	4.0E	645.0
	2.0E	832.8	4.0E	1056.3	1.0E	1125.0	5000.0E	1609.2	6.0E	2500.0

200.0	8.0E	94.3	2.0E	175.4	8.0E	326.3	2.0E	578.2	4.0E	720.1
	2.0E	833.1	4.0E	901.4	8.0E	1042.9	1.0E	1126.3	5000.0E	1129.7
	1.0E	1135.9	5000.0E	1609.2	6.0E	1609.3	5.0E	2500.0		
205.0	8.0E	342.0	2.0E	429.2	4.0E	527.9	2.0E	757.4	4.0E	941.6
	8.0E	1063.2	1.0E	1130.5	2.0E	1137.6	5000.0E	2500.0		
210.0	8.0E	268.8	4.0E	671.9	2.0E	770.4	4.0E	826.6	2.0E	1223.8
	5000.0E	1228.3	2.0E	1228.9	5000.0E	1258.3	15.0E	1311.3	5000.0E	1314.7
	15.0E	1338.8	5000.0E	2500.0						
215.0	8.0E	264.3	4.0E	798.2	2.0E	1008.5	4.0E	1274.8	15.0E	1404.0
	5000.0E	2500.0								
220.0	8.0E	281.8	4.0E	815.2	2.0E	944.9	8.0E	1391.1	15.0E	1419.5
	30.0E	1458.1	5000.0E	1609.2	2.0E	1609.3	5.0E	2500.0		
225.0	8.0E	297.0	4.0E	788.8	8.0E	1230.8	4.0E	1296.7	8.0E	1311.9
	15.0E	1376.9	8.0E	1486.0	30.0E	1554.8	5000.0E	1609.2	30.0E	1609.3
	20.0E	1609.3	5.0E	1609.3	3.0E	1609.3	1.5E	1609.3	4.0E	2500.0
230.0	8.0E	307.1	4.0E	466.2	8.0E	562.2	4.0E	749.5	8.0E	1040.6
	4.0E	1223.0	15.0E	1298.1	8.0E	1516.6	4.0E	1586.0	15.0E	1609.2
	30.0E	1609.3	15.0E	1609.3	3.0E	1609.3	1.5E	1609.3	4.0E	2500.0
235.0	8.0E	316.7	4.0E	387.1	8.0E	599.9	4.0E	693.6	8.0E	970.2
	4.0E	1235.0	8.0E	1445.1	4.0E	1599.1	15.0E	1609.2	8.0E	1609.3
	15.0E	1609.3	8.0E	1609.3	3.0E	1609.3	1.5E	1609.3	4.0E	2500.0
240.0	8.0E	610.7	4.0E	618.2	8.0E	1005.1	4.0E	1340.0	30.0E	1520.7
	15.0E	1609.2	8.0E	1609.3	3.0E	1609.3	1.5E	1609.3	4.0E	2500.0
245.0	8.0E	1074.1	15.0E	1423.1	30.0E	1483.5	15.0E	1609.2	8.0E	1609.3
	1.5E	1609.3	4.0E	2500.0						
250.0	8.0E	1177.7	15.0E	1348.6	30.0E	1505.7	15.0E	1551.6	30.0E	1609.2
	15.0E	1609.3	8.0E	1609.3	4.0E	2500.0				
255.0	8.0E	583.1	15.0E	687.5	8.0E	1077.9	15.0E	1181.5	30.0E	1225.8
	8.0E	1295.2	30.0E	1437.5	15.0E	1609.2	30.0E	1609.3	15.0E	1609.3
	8.0E	1609.3	4.0E	1609.3	8.0E	1609.3	4.0E	2500.0		
260.0	8.0E	522.7	15.0E	693.5	8.0E	932.5	15.0E	1120.2	30.0E	1483.1
	15.0E	1536.9	30.0E	1609.2	15.0E	1609.3	8.0E	1609.3	15.0E	1609.3
	8.0E	1609.3	4.0E	1609.3	8.0E	2500.0				
265.0	8.0E	490.4	15.0E	654.6	8.0E	796.7	15.0E	1097.7	30.0E	1594.8
	15.0E	1609.2	2.0E	1609.3	4.0E	1609.3	15.0E	1609.3	8.0E	1609.3
	15.0E	1609.3	8.0E	2500.0						
270.0	8.0E	471.0	15.0E	617.8	8.0E	742.6	15.0E	1068.4	30.0E	1527.5
	15.0E	1609.2	8.0E	1609.3	4.0E	1609.3	2.0E	1609.3	4.0E	1609.3
	15.0E	1609.3	8.0E	1609.3	15.0E	2500.0				
275.0	8.0E	165.4	15.0E	291.9	8.0E	460.1	15.0E	583.5	8.0E	667.2
	15.0E	1029.1	30.0E	1091.8	15.0E	1319.8	30.0E	1515.8	15.0E	1609.2
	8.0E	1609.3	2.0E	1609.3	8.0E	1609.3	15.0E	1609.3	8.0E	2500.0
280.0	8.0E	62.9	15.0E	270.6	8.0E	447.8	15.0E	537.1	8.0E	713.9
	15.0E	1022.7	30.0E	1064.8	15.0E	1132.9	30.0E	1260.2	15.0E	1309.3
	30.0E	1508.9	15.0E	1609.2	8.0E	1609.3	2.0E	1609.3	8.0E	1609.3
	15.0E	1609.3	2.0E	1609.3	15.0E	1609.3	2.0E	1609.3	4.0E	1609.3
	15.0E	2500.0								
285.0	8.0E	50.4	15.0E	253.9	8.0E	438.6	15.0E	501.2	8.0E	781.0
	15.0E	1287.4	4.0E	1609.2	8.0E	1609.3	15.0E	1609.3	8.0E	2500.0
290.0	8.0E	44.1	15.0E	239.9	8.0E	434.6	15.0E	481.3	8.0E	788.1
	15.0E	1173.4	30.0E	1366.8	15.0E	1506.3	8.0E	1609.2	15.0E	1609.3
	8.0E	1609.3	15.0E	1609.3	8.0E	1609.3	2.0E	1609.3	4.0E	1609.3
	8.0E	1609.3	4.0E	2500.0						
295.0	8.0E	39.6	15.0E	228.2	8.0E	428.6	15.0E	461.0	8.0E	705.9
	4.0E	751.3	8.0E	863.8	15.0E	985.2	30.0E	1144.7	15.0E	1285.6
	30.0E	1521.7	15.0E	1609.2	8.0E	1609.3	15.0E	1609.3	8.0E	1609.3
	2.0E	1609.3	8.0E	1609.3	4.0E	2500.0				
300.0	8.0E	36.3	15.0E	178.9	8.0E	677.5	4.0E	810.7	8.0E	898.7
	15.0E	1016.9	8.0E	1130.2	15.0E	1359.3	30.0E	1557.2	8.0E	1609.2
	15.0E	1609.3	8.0E	1609.3	15.0E	1609.3	8.0E	2500.0		

305.0	8.0E	33.7	15.0E	117.3	8.0E	303.4	2.0E	369.6	8.0E	485.9
	15.0E	517.8	8.0E	677.8	4.0E	849.8	8.0E	938.4	4.0E	1239.5
	30.0E	1324.0	15.0E	1380.0	30.0E	1609.2	15.0E	1609.3	8.0E	1609.3
	20.0E	1609.3	40.0E	2500.0						
310.0	8.0E	32.1	15.0E	108.2	8.0E	281.7	2.0E	374.0	8.0E	521.8
	15.0E	545.2	8.0E	676.7	4.0E	1322.1	30.0E	1609.2	40.0E	1609.3
	20.0E	2500.0								
315.0	8.0E	31.1	15.0E	105.1	8.0E	262.3	4.0E	286.0	2.0E	384.3
	8.0E	554.0	15.0E	623.6	8.0E	691.4	4.0E	1004.7	8.0E	1176.0
	4.0E	1303.6	8.0E	1395.1	30.0E	1448.2	15.0E	1510.6	30.0E	1543.9
	40.0E	1609.2	20.0E	1609.3	10.0E	2500.0				
320.0	8.0E	30.5	15.0E	106.4	8.0E	246.6	4.0E	290.9	2.0E	414.4
	8.0E	587.6	15.0E	645.9	8.0E	707.2	4.0E	978.6	8.0E	1385.0
	20.0E	1470.4	40.0E	1604.8	20.0E	1609.2	10.0E	2500.0		
325.0	8.0E	30.1	15.0E	111.2	8.0E	238.9	4.0E	295.5	2.0E	348.7
	8.0E	401.9	2.0E	499.8	8.0E	718.6	4.0E	930.8	8.0E	1132.9
	2.0E	1136.8	8.0E	1146.1	2.0E	1609.2	10.0E	1609.3	20.0E	1609.3
	10.0E	1609.3	20.0E	1609.3	10.0E	1609.3	20.0E	1609.3	2.0E	2500.0
330.0	8.0E	30.0	15.0E	119.9	8.0E	239.8	4.0E	299.3	8.0E	453.1
	2.0E	541.9	8.0E	738.2	4.0E	911.9	8.0E	1047.5	2.0E	1400.5
	2.0E	1609.2	20.0E	1609.3	2.0E	2500.0				
335.0	8.0E	30.0	15.0E	139.9	8.0E	250.5	4.0E	292.5	8.0E	481.0
	2.0E	583.3	8.0E	772.5	4.0E	802.4	8.0E	804.8	4.0E	812.2
	8.0E	902.2	4.0E	920.9	8.0E	1032.7	2.0E	1039.0	8.0E	1053.5
	2.0E	1280.7	2.0E	1609.2	2.0E	2500.0				
340.0	8.0E	30.4	15.0E	163.6	8.0E	1060.9	2.0E	1201.2	2.0E	1609.2
	2.0E	2500.0								
345.0	8.0E	30.9	15.0E	176.7	8.0E	1008.6	2.0E	1143.8	2.0E	1495.2
	2.0E	1609.2	5000.0E	1609.3	2.0E	2500.0				
350.0	8.0E	32.7	15.0E	180.6	8.0E	779.8	2.0E	794.2	8.0E	837.7
	2.0E	869.0	8.0E	891.3	2.0E	1106.2	2.0E	1223.0	2.0E	1609.2
	5000.0E	2500.0								
355.0	8.0E	35.1	15.0E	173.2	8.0E	373.1	15.0E	418.1	8.0E	675.5
	10.0E	695.4	2.0E	1071.6	6.0E	1115.3	2.0E	1609.2	5000.0E	2500.0

## Exhibit 15.7 WVKO Proposed Distance to Contour Report

COLUMBUS

,OH

Call: WVKO

Coordinates: N 40 3 42 W 82 56 41

Frequency: 1580 kHz Number of contours: 6

Azimuth	Radiation (mV/m at one km)	Distances to Contours in Kilometers :					
		Contour levels in mV/m.					
		.025	.500	.005	.250	5.000	25.000
0.0	513.12	211.85	63.94	333.99	89.12	21.28	9.16
5.0	543.25	195.05	58.80	317.85	78.85	21.85	9.48
10.0	572.74	194.10	60.14	318.13	80.62	22.38	9.78
15.0	600.97	197.00	61.38	318.82	82.26	22.88	10.06
20.0	627.41	199.37	62.51	319.78	83.75	23.33	10.31
25.0	651.66	201.81	63.52	317.95	85.09	23.73	10.54
30.0	673.40	203.95	64.41	319.50	86.26	24.08	10.74
35.0	692.45	205.79	65.18	320.94	87.27	24.38	10.92
40.0	708.74	207.34	65.83	322.10	88.11	24.64	11.06
45.0	722.30	208.56	66.36	320.79	88.81	24.84	11.18
50.0	733.26	209.53	66.78	323.44	89.36	25.01	11.27
55.0	741.81	210.29	67.11	324.96	89.79	25.14	11.35
60.0	748.22	210.85	67.36	321.88	90.11	25.24	11.40
65.0	752.80	211.25	67.53	318.97	90.34	25.31	11.44
70.0	755.88	211.32	67.65	315.03	90.49	25.35	11.47
75.0	757.78	206.39	67.72	311.53	90.59	25.38	11.48
80.0	758.82	202.62	67.76	308.10	90.64	25.40	11.49
85.0	759.28	199.59	67.78	305.09	90.66	25.40	11.50
90.0	759.41	197.02	67.78	302.51	90.67	25.41	11.50
95.0	759.39	194.84	67.78	300.34	90.67	25.40	11.50
100.0	759.36	193.10	67.78	292.03	90.66	25.40	11.50
105.0	759.36	188.86	67.78	288.21	90.66	25.40	11.50
110.0	759.40	184.69	67.78	284.50	90.03	25.41	11.50
115.0	759.40	180.41	67.78	279.01	89.08	25.41	11.50
120.0	759.22	176.57	67.77	272.65	88.34	25.40	11.50
125.0	758.67	172.78	67.75	268.85	87.76	25.39	11.49
130.0	757.48	168.69	67.71	264.73	84.88	25.38	11.48
135.0	755.37	167.73	67.63	263.72	83.99	25.34	11.46
140.0	752.02	166.94	67.50	262.86	83.32	25.29	11.43
145.0	747.09	166.28	67.31	262.09	82.84	25.22	11.39
150.0	740.28	165.71	67.05	261.37	82.53	25.12	11.33
155.0	731.26	165.14	66.71	260.61	82.31	24.98	11.26
160.0	719.80	164.35	66.26	259.57	81.96	24.81	11.16
165.0	705.71	163.58	65.71	258.50	81.74	24.59	11.03
170.0	688.86	162.84	65.04	257.37	81.66	24.32	10.88
175.0	669.26	161.90	64.24	255.96	81.52	24.01	10.70

Azimuth	Radiation (mV/m at one km)	Distances to Contours in Kilometers :					
		Contour levels in mV/m.					
		.025	.500	.005	.250	5.000	25.000
180.0	647.00	160.79	63.33	254.23	81.33	23.65	10.50
185.0	622.29	159.69	62.29	252.44	81.30	23.24	10.26
190.0	595.45	158.65	61.14	250.64	81.46	22.78	10.01
195.0	566.93	157.85	59.88	249.00	80.28	22.28	9.72
200.0	537.26	159.09	58.53	265.60	78.48	21.74	9.42
205.0	507.07	185.92	57.11	297.05	76.60	21.16	9.09
210.0	477.06	182.17	55.65	290.55	74.65	20.57	8.77
215.0	447.94	178.38	54.18	285.88	72.69	19.97	8.43
220.0	420.45	174.54	52.74	283.02	70.77	19.39	8.11
225.0	395.27	170.85	51.38	278.64	68.95	18.83	7.80
230.0	372.96	167.46	50.13	274.40	67.27	18.31	7.52
235.0	353.96	164.40	49.04	270.55	65.79	17.85	7.27
240.0	338.47	161.80	48.12	267.29	64.56	17.47	7.06
245.0	326.47	159.74	47.39	264.70	63.58	17.16	6.90
250.0	317.70	158.20	46.85	262.76	62.84	16.93	6.77
255.0	311.71	157.14	46.47	261.41	62.34	16.78	6.69
260.0	307.94	156.46	46.23	260.55	62.02	16.68	6.64
265.0	305.79	156.07	46.09	260.05	61.83	16.62	6.61
270.0	304.71	155.87	46.03	259.81	61.74	16.59	6.59
275.0	304.25	155.79	46.00	270.20	61.70	16.58	6.58
280.0	304.10	176.13	45.99	290.34	61.69	16.57	6.58
285.0	304.12	180.04	45.99	292.37	65.25	16.57	6.58
290.0	304.31	182.31	46.71	293.07	67.50	16.58	6.58
295.0	304.86	184.10	48.43	293.42	69.23	16.59	6.59
300.0	306.11	184.83	49.89	288.83	70.72	16.63	6.61
305.0	308.54	175.99	51.20	280.11	72.09	16.69	6.64
310.0	312.71	175.56	52.27	279.87	73.27	16.80	6.70
315.0	319.21	176.41	53.23	279.26	74.39	16.97	6.79
320.0	328.60	178.55	54.30	280.01	75.69	17.22	6.93
325.0	341.29	181.82	55.51	282.64	77.19	17.54	7.10
330.0	357.48	186.24	56.86	287.35	78.92	17.94	7.31
335.0	377.17	192.96	58.34	295.61	80.84	18.41	7.57
340.0	400.09	200.21	59.90	308.15	82.89	18.94	7.86
345.0	425.79	205.65	61.47	314.38	84.99	19.50	8.17
350.0	453.66	209.38	62.57	318.94	86.65	20.09	8.50
355.0	483.01	211.19	63.51	321.65	88.14	20.69	8.83

## Exhibit 16.1

### WVCO Proposed Nighttime Allocation Study

Call: WVCO PN  
 Freq: 1580 kHz  
 COLUMBUS, OH, US  
 Lat: 40-03-42 N  
 Lng: 082-56-41 W  
 Power: 0.29 kW  
 Theo RMS: 161.71 mV/m @ 1km

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	90.0	0	0	0.0	0.0	0.0	0.0
2	2.000	-60.0	135.0	195.0	90.0	0	0	0.0	0.0	0.0	0.0
3	1.150	-140.0	270.0	195.0	90.0	0	0	0.0	0.0	0.0	0.0

Call Letters	Ct	St	City	Azi (deg)	Ang Low (deg)	Ang High (deg)	SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)	Margin (mV/m)
CHUC/A (0)	CA	ON	COBOURG	24.11	10.32	10.32	48.36	0.50	51.69S	27.49	24.20
CHUC/A (5)	CA	ON	COBOURG	25.90	10.08	10.08	47.06	0.50	53.12S	27.48	25.64
CHUC/A (10)	CA	ON	COBOURG	27.64	9.83	9.83	45.73	0.50	54.66S	27.48	27.19
CHUC/A (15)	CA	ON	COBOURG	29.37	9.56	9.56	44.33	0.50	56.39S	27.47	28.92
CHUC/A (20)	CA	ON	COBOURG	31.15	9.29	9.29	42.94	0.50	58.22S	27.48	30.74
CHUC/A (25)	CA	ON	COBOURG	32.98	9.01	9.01	41.47	0.50	60.29S	27.50	32.79
CHUC/A (30)	CA	ON	COBOURG	34.89	8.76	8.76	40.12	0.50	62.32S	27.53	34.79
CHUC/A (35)	CA	ON	COBOURG	36.89	8.53	8.53	38.86	0.50	64.33S	27.58	36.76
CHUC/A (40)	CA	ON	COBOURG	38.97	8.34	8.34	37.79	0.50	66.16S	27.62	38.54
CHUC/A (45)	CA	ON	COBOURG	41.13	8.20	8.20	37.02	0.50	67.54S	27.64	39.89
CHUC/A (50)	CA	ON	COBOURG	43.34	8.11	8.11	36.56	0.50	68.37S	27.63	40.74
CHUC/A (55)	CA	ON	COBOURG	45.58	8.10	8.10	36.50	0.50	68.50S	27.54	40.96
CHUC/A (60)	CA	ON	COBOURG	47.79	8.17	8.17	36.86	0.50	67.83S	27.33	40.50
CHUC/A (65)	CA	ON	COBOURG	49.94	8.32	8.32	37.70	0.50	66.31S	26.98	39.33
CHUC/A (70)	CA	ON	COBOURG	51.95	8.59	8.59	39.19	0.50	63.79S	26.48	37.31
CHUC/A (75)	CA	ON	COBOURG	48.11	12.63	12.63	59.93	0.54	45.06s	26.56	18.50
CHUC/A (80)	CA	ON	COBOURG	47.90	13.46	13.46	63.75	0.50	39.21P	26.40	12.81
CHUC/A (85)	CA	ON	COBOURG	48.23	13.87	13.87	65.58	0.50	38.12P	26.26	11.87
CHUC/A (90)	CA	ON	COBOURG	46.34	15.01	15.01	70.40	0.50	35.51S	26.29	9.23
CHUC/A (95)	CA	ON	COBOURG	47.61	14.92	14.92	69.99	0.50	35.72S	26.13	9.59
CHUC/A (100)	CA	ON	COBOURG	48.47	15.01	15.01	70.40	0.50	35.51S	25.95	9.56
CHUC/A (105)	CA	ON	COBOURG	48.64	15.28	15.28	71.74	0.50	34.85S	25.84	9.01
CHUC/A (110)	CA	ON	COBOURG	48.63	15.57	15.57	73.16	0.50	34.17S	25.76	8.41
CHUC/A (115)	CA	ON	COBOURG	47.86	15.95	15.95	75.02	0.60	40.17g	25.83	14.34
CHUC/A (120)	CA	ON	COBOURG	47.05	16.27	16.27	76.55	0.69	44.77g	25.86	18.91
CHUC/A (125)	CA	ON	COBOURG	46.43	16.51	16.51	77.61	0.68	43.89g	25.90	17.99
CHUC/A (130)	CA	ON	COBOURG	45.93	16.70	16.70	78.41	0.57	36.22g	25.92	10.30
CHUC/A (135)	CA	ON	COBOURG	44.76	16.87	16.87	79.12	0.50	31.60S	26.00	5.59
CHUC/A (140)	CA	ON	COBOURG	42.94	16.95	16.95	79.46	0.50	31.46S	26.14	5.32
CHUC/A (145)	CA	ON	COBOURG	44.70	17.10	17.10	80.08	0.50	31.22S	25.96	5.26
CHUC/A (150)	CA	ON	COBOURG	44.56	17.21	17.21	80.53	0.92	57.10g	25.95	31.15
CHUC/A (155)	CA	ON	COBOURG	44.30	17.31	17.31	80.92	1.39	86.09g	25.95	60.14
CHUC/A (160)	CA	ON	COBOURG	44.06	17.39	17.39	81.28	1.84	113.14g	25.95	87.19
CHUC/A (165)	CA	ON	COBOURG	43.82	17.48	17.48	81.62	2.22	136.28g	25.94	110.34
CHUC/A (170)	CA	ON	COBOURG	43.60	17.56	17.56	81.95	2.52	153.82g	25.94	127.88
CHUC/A (175)	CA	ON	COBOURG	43.38	17.64	17.64	82.26	2.71	164.56g	25.96	138.60
CHUC/A (180)	CA	ON	COBOURG	43.15	17.71	17.71	82.57	2.77	167.83g	25.95	141.88
CHUC/A (185)	CA	ON	COBOURG	42.93	17.79	17.79	82.88	2.71	163.47g	25.94	137.53
CHUC/A (190)	CA	ON	COBOURG	42.70	17.87	17.87	83.19	2.53	151.77g	25.93	125.84
CHUC/A (195)	CA	ON	COBOURG	42.45	17.95	17.95	83.51	2.23	133.53g	25.95	107.58
CHUC/A (200)	CA	ON	COBOURG	42.20	18.03	18.03	83.83	1.85	110.07g	25.94	84.13
CHUC/A (205)	CA	ON	COBOURG	41.92	18.12	18.12	84.17	1.40	83.12g	25.93	57.19
CHUC/A (210)	CA	ON	COBOURG	41.62	18.21	18.21	84.54	0.92	54.67g	25.93	28.75
CHUC/A (215)	CA	ON	COBOURG	41.27	18.27	18.27	84.73	0.50	29.50S	25.92	3.58
CHUC/A (220)	CA	ON	COBOURG	40.75	17.66	17.66	82.34	0.50	30.36S	26.09	4.27
CHUC/A (225)	CA	ON	COBOURG	40.49	18.30	18.30	84.84	0.50	29.47S	25.95	3.51
CHUC/A (230)	CA	ON	COBOURG	39.90	18.84	18.84	86.93	0.50	28.76S	25.86	2.90
CHUC/A (235)	CA	ON	COBOURG	39.08	19.25	19.25	88.43	0.50	28.27S	25.76	2.51
CHUC/A (240)	CA	ON	COBOURG	38.06	19.56	19.56	89.57	0.50	27.91S	25.71	2.20
CHUC/A (245)	CA	ON	COBOURG	36.94	19.76	19.76	90.27	0.50	27.69S	25.69	2.01
CHUC/A (250)	CA	ON	COBOURG	35.79	19.83	19.83	90.54	0.50	27.61S	25.70	1.91
CHUC/A (255)	CA	ON	COBOURG	35.18	19.57	19.57	89.59	0.50	27.90S	25.75	2.16
CHUC/A (260)	CA	ON	COBOURG	35.49	18.98	18.98	87.42	0.50	28.60S	25.88	2.71
CHUC/A (265)	CA	ON	COBOURG	34.66	18.89	18.89	87.10	0.50	28.70S	25.90	2.80
CHUC/A (270)	CA	ON	COBOURG	33.95	18.74	18.74	86.54	0.50	28.89S	25.94	2.94
CHUC/A (275)	CA	ON	COBOURG	7.06	21.71	21.71	98.24	0.51	25.76s	25.21	0.55
CHUC/A (280)	CA	ON	COBOURG	6.07	20.45	20.45	93.14	0.53	28.35s	25.50	2.85
CHUC/A (285)	CA	ON	COBOURG	5.15	19.24	19.24	88.40	0.54	30.77s	25.79	4.98
CHUC/A (290)	CA	ON	COBOURG	4.29	18.07	18.07	83.97	0.55	32.88s	26.03	6.85
CHUC/A (295)	CA	ON	COBOURG	3.46	16.91	16.91	79.29	0.55	34.92s	26.27	8.65

Call Margin Letters	Ct	St	City	Azi (deg)	Ang Low (deg)	Ang High (deg)	SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)	(mV/m)
CHUC/A (300)	CA	ON	COBOURG	357.01	14.89	14.89	69.84	0.50	35.80S	26.67	9.13
CHUC/A (305)	CA	ON	COBOURG	358.81	14.03	14.03	66.25	0.50	37.73S	26.81	10.93
CHUC/A (310)	CA	ON	COBOURG	0.97	13.33	13.33	63.15	0.50	39.59S	26.92	12.66
CHUC/A (315)	CA	ON	COBOURG	3.36	12.76	12.76	60.53	0.50	41.30S	27.03	14.27
CHUC/A (320)	CA	ON	COBOURG	5.88	12.30	12.30	58.35	0.50	42.84S	27.16	15.69
CHUC/A (325)	CA	ON	COBOURG	8.47	11.93	11.93	56.57	0.50	44.19S	27.28	16.91
CHUC/A (330)	CA	ON	COBOURG	11.04	11.62	11.62	55.11	0.50	45.36S	27.38	17.98
CHUC/A (335)	CA	ON	COBOURG	13.51	11.36	11.36	53.82	0.50	46.45S	27.44	19.01
CHUC/A (340)	CA	ON	COBOURG	15.91	11.14	11.14	52.74	0.50	47.40S	27.50	19.90
CHUC/A (345)	CA	ON	COBOURG	18.15	10.94	10.94	51.71	0.50	48.35S	27.52	20.83
CHUC/A (350)	CA	ON	COBOURG	20.27	10.74	10.74	50.71	0.50	49.30S	27.52	21.77
CHUC/A (355)	CA	ON	COBOURG	22.24	10.54	10.54	49.57	0.50	50.43S	27.51	22.92
NEW	US	SC	GEORGETOWN	155.85	8.30	14.69	59.11	2.87	242.47	241.80	0.67
50% = 9.656, 25% = 11.466; WEAM=9.66 WKTP=3.71 WPGC=3.70 XEDM/A=3.29											
WWGS	US	SC	GEORGETOWN	156.22	8.34	14.74	59.37	2.89	243.39	241.10	2.29
50% = 9.764, 25% = 11.56; WEAM=9.76 WKTP=3.71 WPGC=3.69 XEDM/A=3.30											
WPGC	US	MD	MORNINGSIDE	102.40	13.83	22.83	101.71	3.27	160.99	155.58	5.40
50% = 7.481, 25% = 8.134; WLIM=6.54 WVKO=3.64 XEDM/A=2.41 WDND=2.09											
WEAM	US	GA	COLUMBUS	193.06	7.50	13.49	53.70	2.15	200.44	189.72	10.72
50% = 7.068, 25% = 8.5; KXZZ=5.04 XEDM/A=4.95 XERF/A=2.83 WPGC=2.24 WDND=2.16 WVKO=2.15											
WDND	US	IN	SOUTH BEND	304.75	23.13	35.56	185.92	3.25	87.41	68.71	18.70
50% = 5.264, 25% = 6.0; XEDM/A=3.83 WVKO=3.61 XERF/A=1.75 WNTS=1.72 WKKD=1.50											
WKKD	US	IL	SILVIS	286.99	11.10	18.83	75.35	2.99	198.30	161.01	37.28
50% = 10.823, 25% = 11.954; WDND=10.82 XEDM/A=5.08											
WKKD	US	IL	SILVIS	287.31	11.00	18.69	74.50	2.96	198.34	159.41	38.92
50% = 10.675, 25% = 11.821; WDND=10.68 XEDM/A=5.08											
WKKD	US	IL	AURORA	294.74	15.41	25.09	113.38	3.81	168.09	117.46	50.63
50% = 14.609, 25% = 15.246; WDND=14.61 XEDM/A=4.36											
NEW	US	TN	MIDDLETON	225.18	8.96	15.66	63.52	3.69	290.75	223.80	66.95
50% = 13.58, 25% = 14.774; WEAM=12.04 XEDM/A=6.28 WWGS=4.45 XERF/A=3.75											
WLIM	US	NY	PATCHOGUE	81.25	7.75	13.87	48.69	1.21	123.93	52.81	71.12
50% = 2.653, 25% = 3.279; XEDM/A=1.76 WPGC=1.56 LAVAL/A=1.22 WVKO=1.21 CFOR/ =0.93 WISP=0.84 WEKO=0.82											
NEW	US	MA	CORDAVILLE	71.75	6.08	11.40	36.09	0.75	104.07	25.25	78.82
50% = 2.869, 25% = 3.004; LAVAL/A=2.44 XEDM/A=1.51 WLIM=0.89											
WAKR	US	OH	AKRON	48.29	41.30	55.54	332.12	0.75	112.71	17.44	95.27
50% = 1.971, 25% = 2.995; WKTP=1.19 WNTS=1.15 WHGT=1.07 WFBR=0.94 WONX=0.93 WASB=0.91 KDAV=0.83 WTVB=0.82 WPVL=0.76 WKHZ=0.75											
WSRF	US	FL	FORT LAUDERDALE	169.94	1.67	5.07	21.12	1.55	366.58	215.24	151.34
50% = 5.011, 25% = 6.349; XEDM/A=3.75 UNK-A=2.45 WEKO=2.25 KXZZ=1.87 XERF/A=1.86 KMIK=1.73 WCCF=1.69 WRXB=1.55											
WSRF	US	FL	FORT LAUDERDALE	169.97	1.67	5.07	21.14	1.55	366.69	215.19	151.51
50% = 5.009, 25% = 6.345; XEDM/A=3.75 UNK-A=2.45 WEKO=2.25 KXZZ=1.87 XERF/A=1.86 KMIK=1.74 WCCF=1.67 WRXB=1.55											
WCCF	US	FL	PUNTA GORDA	176.50	2.30	5.95	23.75	2.20	462.35	204.03	258.32
50% = 7.894, 25% = 8.879; WSRF=6.67 XEDM/A=4.23 KXZZ=2.45 WEAM=2.38 XERF/A=2.20											
WKTP	US	TN	JONESBOROUGH	174.19	18.11	28.89	145.24	1.60	550.28	204.10	346.18
50% = 5.07, 25% = 6.394; WNTS=3.69 WFBR=3.48 WZR=2.49 WAKR=1.79 WHGT=1.79 WKHZ=1.60											
WNTS	US	IN	BEECH GROVE	263.40	27.39	40.82	227.65	3.08	676.65	214.48	462.18
50% = 11.144, 25% = 12.323; WAKR=9.86 WONX=5.20 WVNA=3.75 WKTP=3.69											
KXZZ	US	LA	LAKE CHARLES	223.61	2.51	6.24	23.87	3.66	766.87	222.12	544.75
50% = 13.228, 25% = 14.647; XEDM/A=10.24 XERF/A=8.38 KMIK=4.87 KWED=3.97											
NEW	US	WV	ELIZABETH	129.39	39.35	53.69	322.13	5.00	776.10	177.57	598.53
50% = 15.239, 25% = 20.0; XERF/A=15.24 CFOR/ =7.05 UNK-A=6.91 CHLO/A=5.93 WPTW=5.93											
WPTW	US	OH	PIQUA	274.87	51.62	64.45	390.83	5.68	727.26	111.54	615.72
50% = 17.504, 25% = 22.739; XERF/A=17.50 CHLO/U=7.10 WILO=6.73 WBGX=6.33 WWSZ=6.14 UNK-A=6.09											
WALG	US	GA	ALBANY	186.98	6.53	12.06	47.07	0.92	977.04	192.30	784.74
50% = 2.472, 25% = 3.74; WXVI=1.58 WFBR=1.52 WZR=1.15 TGXC-A=1.13 KMIC=1.01 WPVL=1.01 WNTS=0.99 WKTP=0.97 WEAM=0.97 WRXB=0.92 WONX=0.92											

Call Margin Letters	Ct	St	City	Azi (deg)	Ang Low (deg)	Ang High (deg)	SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)	Rad (mV/m)
KGAF	US TX		GAINESVILLE	244.82	2.42	6.12	22.28	5.35	1200.84	262.02	938.82
50% = 20.0, 25% = 21.408; XEDM/A=13.81 XERF/A=11.00 KQRL=9.40 KXZZ=7.64											
WTVB	US MI		COLDWATER	320.57	27.58	41.05	225.77	5.19	1150.15	29.68	1120.47
50% = 19.3, 25% = 20.773; WAKR=19.30 WNTS=7.68											
WVNA	US AL		TUSCUMBIA	216.84	9.63	16.65	69.18	1.86	1344.10	208.54	1135.57
50% = 5.791, 25% = 7.439; WZR X=5.00 WAKR=2.92 WALG=2.54 WONX=2.04 WNTS=1.94 WPVL=1.93 WKTP=1.92											
UNK-B (0)	AC		JUDGE BAY	132.20	0.00	0.00	1.38	0.50	1807.71S	266.71	1541.00
UNK-B (5)	AC		JUDGE BAY	132.94	0.00	0.00	1.31	0.50	1915.32S	267.20	1648.12
UNK-B (10)	AC		JUDGE BAY	130.94	0.00	0.00	1.38	0.50	1811.12S	265.64	1545.48
UNK-B (15)	AC		JUDGE BAY	129.26	0.00	0.00	1.41	0.50	1771.52S	263.72	1507.81
UNK-B (20)	AC		JUDGE BAY	127.96	0.00	0.00	1.41	0.50	1772.90S	261.86	1511.04
UNK-B (25)	AC		JUDGE BAY	126.95	0.00	0.00	1.39	0.50	1798.04S	260.18	1537.86
UNK-B (30)	AC		JUDGE BAY	126.21	0.00	0.00	1.36	0.50	1839.49S	258.81	1580.69
UNK-B (35)	AC		JUDGE BAY	124.66	0.00	0.00	1.33	0.50	1876.69S	255.60	1621.10
UNK-B (40)	AC		JUDGE BAY	123.90	0.00	0.00	1.29	0.50	1945.32S	253.85	1691.47
UNK-B (45)	AC		JUDGE BAY	124.80	0.00	0.00	1.23	0.50	2029.60S	255.90	1773.70
UNK-B (50)	AC		JUDGE BAY	125.74	0.00	0.00	1.19	0.50	2094.19S	257.89	1836.31
UNK-B (55)	AC		JUDGE BAY	126.34	0.00	0.00	1.16	0.50	2152.16S	259.06	1893.10
UNK-B (60)	AC		JUDGE BAY	127.38	0.00	0.00	1.14	0.50	2199.34S	260.93	1938.41
UNK-B (65)	AC		JUDGE BAY	129.30	0.00	0.00	1.13	0.50	2215.40S	263.77	1951.62
UNK-B (70)	AC		JUDGE BAY	131.78	0.00	0.00	1.14	0.50	2191.38S	266.39	1924.99
UNK-B (75)	AC		JUDGE BAY	128.64	0.00	0.00	1.07	0.50	2344.89S	262.88	2082.00
UNK-B (80)	AC		JUDGE BAY	127.38	0.00	0.00	1.01	0.50	2477.85S	260.93	2216.92
UNK-B (85)	AC		JUDGE BAY	124.39	0.00	0.00	0.89	0.50	2795.16S	254.99	2540.17
UNK-B (90)	AC		JUDGE BAY	122.31	0.00	0.00	0.79	0.50	3152.75S	249.81	2902.94
UNK-B (95)	AC		JUDGE BAY	121.84	0.00	0.00	0.72	0.50	3452.07S	248.51	3203.56
UNK-B (100)	AC		JUDGE BAY	122.12	0.00	0.00	0.67	0.50	3749.11S	249.28	3499.83
UNK-B (105)	AC		JUDGE BAY	122.85	0.00	0.00	0.63	0.50	3970.30S	251.25	3719.05
UNK-B (110)	AC		JUDGE BAY	123.89	0.00	0.00	0.60	0.50	4189.14S	253.85	3935.29
UNK-B (115)	AC		JUDGE BAY	125.15	0.00	0.00	0.57	0.50	4381.51S	256.70	4124.81
UNK-B (120)	AC		JUDGE BAY	126.57	0.00	0.00	0.55	0.50	4547.69S	259.52	4288.18
UNK-B (125)	AC		JUDGE BAY	128.11	0.00	0.00	0.53	0.50	4687.06S	262.11	4424.95
UNK-B (130)	AC		JUDGE BAY	129.74	0.00	0.00	0.52	0.50	4798.02S	264.34	4533.68
UNK-B (135)	AC		JUDGE BAY	131.42	0.00	0.00	0.51	0.50	4881.77S	266.10	4615.67
UNK-B (140)	AC		JUDGE BAY	133.16	0.00	0.00	0.51	0.50	4936.77S	267.33	4669.44
UNK-B (145)	AC		JUDGE BAY	134.92	0.00	0.00	0.53	0.63	5926.45s	268.02	5658.43
UNK-B (150)	AC		JUDGE BAY	136.52	0.00	0.00	0.55	0.73	6621.25s	268.17	6353.09
UNK-B (155)	AC		JUDGE BAY	137.98	0.00	0.00	0.57	0.84	7296.89s	267.92	7028.97
UNK-B (160)	AC		JUDGE BAY	138.84	0.00	0.00	0.65	1.22	9389.22s	267.62	9121.60
UNK-B (165)	AC		JUDGE BAY	139.66	0.00	0.00	0.69	1.41	10164.45s	267.22	9897.22
UNK-B (170)	AC		JUDGE BAY	139.60	0.00	0.00	0.79	1.77	11244.99s	267.26	10977.73
UNK-B (175)	AC		JUDGE BAY	140.25	0.00	0.00	0.81	1.74	10727.62s	266.87	10460.75
UNK-B (180)	AC		JUDGE BAY	140.86	0.00	0.00	0.83	1.67	10069.84s	266.46	9803.38
UNK-B (185)	AC		JUDGE BAY	141.44	0.00	0.00	0.85	1.57	9210.09s	266.02	8944.07
UNK-B (190)	AC		JUDGE BAY	142.00	0.00	0.00	0.87	1.44	8258.77s	265.55	7993.22
UNK-B (195)	AC		JUDGE BAY	142.55	0.00	0.00	0.90	1.29	7206.73s	265.05	6941.68
UNK-B (200)	AC		JUDGE BAY	143.14	0.00	0.00	0.92	1.12	6108.68s	264.47	5844.21
UNK-B (205)	AC		JUDGE BAY	143.88	0.00	0.00	0.94	0.93	4982.16s	263.68	4718.48
UNK-B (210)	AC		JUDGE BAY	144.67	0.00	0.00	0.96	0.74	3864.81s	262.76	3602.06
UNK-B (215)	AC		JUDGE BAY	145.54	0.00	0.00	0.98	0.54	2771.88s	261.68	2510.21
UNK-B (220)	AC		JUDGE BAY	143.41	0.00	0.00	1.05	0.50	2374.04S	264.19	2109.85
UNK-B (225)	AC		JUDGE BAY	141.93	0.00	0.00	1.11	0.50	2258.17S	265.61	1992.55
UNK-B (230)	AC		JUDGE BAY	138.54	0.00	0.00	1.16	0.50	2151.01S	267.74	1883.26
UNK-B (235)	AC		JUDGE BAY	141.06	0.00	0.00	1.17	0.50	2144.23S	266.32	1877.91
UNK-B (240)	AC		JUDGE BAY	142.95	0.00	0.00	1.19	0.50	2108.29S	264.66	1843.62
UNK-B (245)	AC		JUDGE BAY	143.92	0.00	0.00	1.22	0.50	2053.63S	263.64	1790.00
UNK-B (250)	AC		JUDGE BAY	144.41	0.00	0.00	1.26	0.50	1986.05S	263.08	1722.97
UNK-B (255)	AC		JUDGE BAY	145.22	0.00	0.00	1.31	0.50	1905.04S	262.08	1642.95
UNK-B (260)	AC		JUDGE BAY	145.96	0.00	0.00	1.37	0.50	1821.11S	261.11	1559.99
UNK-B (265)	AC		JUDGE BAY	145.05	0.00	0.00	1.41	0.50	1769.55S	262.30	1507.25
UNK-B (270)	AC		JUDGE BAY	143.39	0.00	0.00	1.43	0.50	1750.38S	264.21	1486.17
UNK-B (275)	AC		JUDGE BAY	142.54	0.00	0.00	1.46	0.50	1715.52S	265.07	1450.45
UNK-B (280)	AC		JUDGE BAY	141.46	0.00	0.00	1.47	0.50	1700.15S	266.01	1434.14
UNK-B (285)	AC		JUDGE BAY	140.16	0.00	0.00	1.46	0.50	1712.92S	266.94	1445.98
UNK-B (290)	AC		JUDGE BAY	138.58	0.00	0.00	1.41	0.50	1771.51S	267.73	1503.78
UNK-B (295)	AC		JUDGE BAY	136.83	0.00	0.00	1.32	0.50	1892.25S	268.15	1624.10
UNK-B (300)	AC		JUDGE BAY	137.32	0.00	0.00	1.40	0.50	1781.08S	268.08	1513.00
UNK-B (305)	AC		JUDGE BAY	137.61	0.00	0.00	1.51	0.50	1653.49S	268.02	1385.47
UNK-B (310)	AC		JUDGE BAY	136.87	0.00	0.00	1.50	0.50	1672.17S	268.14	1404.02
UNK-B (315)	AC		JUDGE BAY	136.79	0.00	0.00	1.65	0.50	1511.68S	268.15	1243.53
UNK-B (320)	AC		JUDGE BAY	136.04	0.00	0.00	1.69	0.50	1475.34S	268.17	1207.17
UNK-B (325)	AC		JUDGE BAY	135.19	0.00	0.00	1.72	0.50	1455.93S	268.07	1187.85
UNK-B (330)	AC		JUDGE BAY	134.30	0.00	0.00	1.72	0.50	1452.71S	267.84	1184.87
UNK-B (335)	AC		JUDGE BAY	133.43	0.00	0.00	1.71	0.50	1465.27S	267.47	1197.79
UNK-B (340)	AC		JUDGE BAY	132.65	0.00	0.00	1.67	0.50	1493.03S	267.02	1226.00
UNK-B (345)	AC		JUDGE BAY	132.02	0.00	0.00	1.63	0.50	1536.96S	266.58	1270.38
UNK-B (350)	AC		JUDGE BAY	131.62	0.00	0.00	1.56	0.50	1600.41S	266.26	1334.15
UNK-B (355)	AC		JUDGE BAY	131.59	0.00	0.00	1.48	0.50	1685.93S	266.23	1419.70

Call Margin Letters	Ct	St	City	Azi (deg)	Ang Low (deg)	Ang High (deg)	SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)	
NEW/A	CA	AB	EDMONTON	313.36	0.00	0.00	4.58	1.21	1319.79	35.92	1283.86
50% = 2.612, 25% = 2.612; XEDM/A=2.32 KGAL=1.21											
NEW/A	CA	AB	EDMONTON	313.36	0.00	0.00	4.58	1.21	1320.19	35.93	1284.26
50% = 2.612, 25% = 2.612; XEDM/A=2.32 KGAL=1.21											
WILO	US	IN	FRANKFORT	275.71	24.82	37.69	203.79	6.03	1478.59	189.55	1289.04
50% = 20.297, 25% = 24.216; XERF/A=20.30 WBGX=7.32 WPTW=6.70 WWSZ=6.30 WFRL=6.03											
WWSZ	US	IN	NEW ALBANY	232.65	24.11	36.80	199.87	6.32	1581.55	221.95	1359.60
50% = 22.478, 25% = 25.289; XERF/A=22.48 UNK-A=7.23 WILO=6.44 WPTW=6.37											
KQRL	US	TX	WACO	237.65	1.60	4.98	19.51	6.80	1743.25	250.81	1492.45
50% = 25.082, 25% = 27.203; XEDM/A=14.94 XERF/A=14.64 KXZZ=13.83 KGAF=7.87 KMIK=6.99											
WHGT	US	PA	CHAMBERSBURG	90.53	16.71	26.93	127.29	4.05	1591.33	93.35	1497.98
50% = 16.205, 25% = 16.205; WAKR=16.20											
WSWV	US	VA	PENNINGTON GAP	180.98	20.56	32.20	168.17	5.70	1694.51	195.21	1499.30
50% = 19.735, 25% = 22.797; XERF/A=19.73 UNK-A=9.15 WTLK=6.82											
YNR11-A (0)	NU		RELOJ NACION	187.38	0.00	0.00	1.45	0.50	1728.96S	192.04	1536.92
YNR11-A (5)	NU		RELOJ NACION	187.32	0.00	0.00	1.45	0.50	1728.73S	192.08	1536.65
YNR11-A (10)	NU		RELOJ NACION	187.27	0.00	0.00	1.45	0.50	1728.86S	192.12	1536.74
YNR11-A (15)	NU		RELOJ NACION	187.21	0.00	0.00	1.45	0.50	1729.35S	192.16	1537.19
YNR11-A (20)	NU		RELOJ NACION	187.15	0.00	0.00	1.44	0.50	1730.20S	192.20	1538.00
YNR11-A (25)	NU		RELOJ NACION	187.09	0.00	0.00	1.44	0.50	1731.39S	192.24	1539.16
YNR11-A (30)	NU		RELOJ NACION	187.04	0.00	0.00	1.44	0.50	1732.93S	192.27	1540.66
YNR11-A (35)	NU		RELOJ NACION	186.99	0.00	0.00	1.44	0.50	1734.80S	192.31	1542.49
YNR11-A (40)	NU		RELOJ NACION	186.94	0.00	0.00	1.44	0.50	1736.99S	192.35	1544.64
YNR11-A (45)	NU		RELOJ NACION	186.89	0.00	0.00	1.44	0.50	1739.47S	192.38	1547.09
YNR11-A (50)	NU		RELOJ NACION	186.85	0.00	0.00	1.43	0.50	1742.24S	192.41	1549.83
YNR11-A (55)	NU		RELOJ NACION	186.81	0.00	0.00	1.43	0.50	1745.27S	192.44	1552.83
YNR11-A (60)	NU		RELOJ NACION	186.77	0.00	0.00	1.43	0.50	1748.51S	192.46	1556.05
YNR11-A (65)	NU		RELOJ NACION	186.74	0.00	0.00	1.43	0.50	1751.65S	192.49	1559.16
YNR11-A (70)	NU		RELOJ NACION	186.72	0.00	0.00	1.42	0.50	1754.95S	192.50	1562.45
YNR11-A (75)	NU		RELOJ NACION	186.69	0.00	0.00	1.42	0.50	1758.40S	192.52	1565.88
YNR11-A (80)	NU		RELOJ NACION	186.68	0.00	0.00	1.42	0.50	1761.98S	192.53	1569.44
YNR11-A (85)	NU		RELOJ NACION	186.66	0.00	0.00	1.42	0.50	1765.64S	192.54	1573.10
YNR11-A (90)	NU		RELOJ NACION	186.63	0.00	0.00	1.41	0.50	1769.21S	192.57	1576.64
YNR11-A (95)	NU		RELOJ NACION	186.55	0.00	0.00	1.41	0.50	1773.13S	192.62	1580.51
YNR11-A (100)	NU		RELOJ NACION	186.50	0.00	0.00	1.41	0.50	1777.79S	192.66	1585.13
YNR11-A (105)	NU		RELOJ NACION	186.47	0.00	0.00	1.40	0.50	1782.89S	192.68	1590.20
YNR11-A (110)	NU		RELOJ NACION	186.46	0.00	0.00	1.40	0.50	1788.22S	192.69	1595.53
YNR11-A (115)	NU		RELOJ NACION	186.46	0.00	0.00	1.39	0.50	1793.66S	192.69	1600.96
YNR11-A (120)	NU		RELOJ NACION	186.47	0.00	0.00	1.39	0.50	1799.08S	192.69	1606.39
YNR11-A (125)	NU		RELOJ NACION	186.49	0.00	0.00	1.39	0.50	1804.40S	192.67	1611.73
YNR11-A (130)	NU		RELOJ NACION	186.53	0.00	0.00	1.38	0.50	1809.53S	192.64	1616.89
YNR11-A (135)	NU		RELOJ NACION	186.57	0.00	0.00	1.38	0.50	1814.40S	192.61	1621.79
YNR11-A (140)	NU		RELOJ NACION	186.62	0.00	0.00	1.37	0.50	1818.94S	192.57	1626.37
YNR11-A (145)	NU		RELOJ NACION	186.68	0.00	0.00	1.37	0.50	1823.10S	192.53	1630.57
YNR11-A (150)	NU		RELOJ NACION	186.75	0.00	0.00	1.37	0.50	1826.81S	192.48	1634.33
YNR11-A (155)	NU		RELOJ NACION	186.82	0.00	0.00	1.37	0.50	1830.04S	192.43	1637.60
YNR11-A (160)	NU		RELOJ NACION	186.89	0.00	0.00	1.36	0.50	1832.73S	192.38	1640.35
YNR11-A (165)	NU		RELOJ NACION	186.97	0.00	0.00	1.36	0.50	1834.84S	192.32	1642.52
YNR11-A (170)	NU		RELOJ NACION	187.05	0.00	0.00	1.36	0.50	1836.35S	192.27	1644.09
YNR11-A (175)	NU		RELOJ NACION	187.14	0.00	0.00	1.36	0.50	1837.24S	192.21	1645.03
YNR11-A (180)	NU		RELOJ NACION	187.22	0.00	0.00	1.36	0.50	1837.47S	192.15	1645.32
YNR11-A (185)	NU		RELOJ NACION	187.30	0.00	0.00	1.36	0.50	1837.03S	192.09	1644.94
YNR11-A (190)	NU		RELOJ NACION	187.38	0.00	0.00	1.36	0.50	1835.90S	192.04	1643.86
YNR11-A (195)	NU		RELOJ NACION	187.46	0.00	0.00	1.36	0.50	1834.08S	191.99	1642.09
YNR11-A (200)	NU		RELOJ NACION	187.53	0.00	0.00	1.36	0.50	1831.55S	191.94	1639.61
YNR11-A (205)	NU		RELOJ NACION	187.60	0.00	0.00	1.37	0.50	1828.29S	191.90	1636.40
YNR11-A (210)	NU		RELOJ NACION	187.66	0.00	0.00	1.37	0.50	1824.29S	191.86	1632.43
YNR11-A (215)	NU		RELOJ NACION	187.70	0.00	0.00	1.37	0.50	1819.46S	191.83	1627.63
YNR11-A (220)	NU		RELOJ NACION	187.73	0.00	0.00	1.38	0.50	1813.67S	191.82	1621.85
YNR11-A (225)	NU		RELOJ NACION	187.75	0.00	0.00	1.38	0.50	1808.82S	191.80	1617.02
YNR11-A (230)	NU		RELOJ NACION	187.78	0.00	0.00	1.38	0.50	1805.30S	191.78	1613.52
YNR11-A (235)	NU		RELOJ NACION	187.81	0.00	0.00	1.39	0.50	1802.00S	191.76	1610.23
YNR11-A (240)	NU		RELOJ NACION	187.85	0.00	0.00	1.39	0.50	1799.00S	191.74	1607.26
YNR11-A (245)	NU		RELOJ NACION	187.88	0.00	0.00	1.39	0.50	1795.82S	191.72	1604.10
YNR11-A (250)	NU		RELOJ NACION	187.91	0.00	0.00	1.39	0.50	1792.47S	191.70	1600.76
YNR11-A (255)	NU		RELOJ NACION	187.93	0.00	0.00	1.40	0.50	1788.97S	191.69	1597.29
YNR11-A (260)	NU		RELOJ NACION	187.95	0.00	0.00	1.40	0.50	1785.37S	191.68	1593.70
YNR11-A (265)	NU		RELOJ NACION	187.96	0.00	0.00	1.40	0.50	1781.68S	191.67	1590.02
YNR11-A (270)	NU		RELOJ NACION	187.97	0.00	0.00	1.41	0.50	1777.94S	191.66	1586.28
YNR11-A (275)	NU		RELOJ NACION	187.98	0.00	0.00	1.41	0.50	1774.16S	191.66	1582.51
YNR11-A (280)	NU		RELOJ NACION	187.98	0.00	0.00	1.41	0.50	1770.39S	191.66	1578.73
YNR11-A (285)	NU		RELOJ NACION	187.97	0.00	0.00	1.42	0.50	1766.65S	191.66	1574.99
YNR11-A (290)	NU		RELOJ NACION	187.96	0.00	0.00	1.42	0.50	1762.96S	191.67	1571.29
YNR11-A (295)	NU		RELOJ NACION	187.94	0.00	0.00	1.42	0.50	1759.36S	191.68	1567.68

Call Margin Letters	Ct	St	City	Azi (deg)	Ang Low (deg)	Ang High (deg)	SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)		
YNR11-A (300)	NU		RELOJ NACION	187.92	0.00	0.00	1.42	0.50	1755.88S	191.69	1564.18	
YNR11-A (305)	NU		RELOJ NACION	187.90	0.00	0.00	1.43	0.50	1752.53S	191.71	1560.82	
YNR11-A (310)	NU		RELOJ NACION	187.87	0.00	0.00	1.43	0.50	1749.34S	191.73	1557.62	
YNR11-A (315)	NU		RELOJ NACION	187.83	0.00	0.00	1.43	0.50	1746.14S	191.75	1554.39	
YNR11-A (320)	NU		RELOJ NACION	187.79	0.00	0.00	1.43	0.50	1743.04S	191.77	1551.26	
YNR11-A (325)	NU		RELOJ NACION	187.75	0.00	0.00	1.44	0.50	1740.20S	191.80	1548.40	
YNR11-A (330)	NU		RELOJ NACION	187.71	0.00	0.00	1.44	0.50	1737.63S	191.83	1545.80	
YNR11-A (335)	NU		RELOJ NACION	187.66	0.00	0.00	1.44	0.50	1735.36S	191.86	1543.50	
YNR11-A (340)	NU		RELOJ NACION	187.61	0.00	0.00	1.44	0.50	1733.41S	191.89	1541.51	
YNR11-A (345)	NU		RELOJ NACION	187.55	0.00	0.00	1.44	0.50	1731.78S	191.93	1539.85	
YNR11-A (350)	NU		RELOJ NACION	187.50	0.00	0.00	1.44	0.50	1730.49S	191.97	1538.52	
YNR11-A (355)	NU		RELOJ NACION	187.44	0.00	0.00	1.45	0.50	1729.55S	192.00	1537.54	
NEW	US TX		PANHANDLE	257.90	1.00	4.16	15.95	5.85	1833.24	266.46	1566.78	
				50% = 21.536,	25% = 23.398;	XEDM/A=19.19	XERF/A=9.78	KQRL=9.15				
WARV	US RI		WARWICK	75.40	6.13	11.46	36.83	1.19	1615.96	33.22	1582.74	
				50% = 4.604,	25% = 4.761;	WSMN=3.55	WPWA=2.93	WFBR=1.21				
WONX	US IL		CAROL STREAM	295.06	15.37	25.04	113.00	3.91	1729.46	115.81	1613.65	
				50% = 15.431,	25% = 15.918;	WAKR=9.55	WNTS=9.20	WTVB=7.89	WVNA=3.91			
WONX	US IL		CAROL STREAM	294.74	15.41	25.09	113.38	3.93	1731.51	117.46	1614.05	
				50% = 15.36,	25% = 15.854;	WAKR=9.54	WNTS=9.22	WTVB=7.74	WVNA=3.93			
WPWA	US PA		CHESTER	89.43	11.27	19.08	77.68	2.70	1735.34	89.30	1646.04	
				50% = 9.455,	25% = 10.785;	WAKR=9.45	WKHZ=3.81	WAUB=3.52				
WYTI	US VA		ROCKY MOUNT	141.33	17.39	27.88	137.48	5.25	1909.13	249.89	1659.24	
				50% = 17.6,	25% = 20.998;	XERF/A=15.16	UNK-A=8.94	WNCA=6.96	WTLK=6.88	CFOR/ =5.95		
WFUR	US MI		GRAND RAPIDS	325.42	19.14	30.29	146.27	5.19	1774.20	19.56	1754.64	
				50% = 18.048,	25% = 21.064;	XERF/A=15.17	CFOR/ =9.78	WBGX=6.89	WSCO=6.60	WILO=5.19		
NEW	US TX		LAKE TANGLEWOOD	257.60	0.78	3.85	15.25	6.20	2033.09	266.71	1766.38	
				50% = 20.464,	25% = 24.803;	XEDM/A=20.46	XERF/A=10.21	KQRL=9.60				
WONX	US IL		EVANSTON	300.15	16.52	26.66	123.31	4.60	1863.26	90.15	1773.11	
				50% = 18.381,	25% = 18.381;	WNTS=11.26	WAKR=10.66	WTVB=9.88				
WEKO	US PR		MOROVIS	141.94	0.00	0.00	7.44	3.17	2130.04	265.73	1864.32	
				50% = 12.686,	25% = 12.686;	HIWJ-C=8.70	WSRF=6.79	UNK-A=6.25				
KWED	US TX		SEGUIN	234.20	0.53	3.52	16.03	6.84	2132.00	244.18	1887.81	
				50% = 25.361,	25% = 27.939;	XERF/A=18.45	XEDM/A=17.40	KMIK=9.52	KQRL=6.84			
WBGX	US IL		HARVEY	294.83	17.39	27.88	132.10	5.60	2119.82	115.81	2004.01	
				50% = 19.488,	25% = 22.403;	XERF/A=19.49	WILO=6.75	WFRL=6.23	WSCO=6.14			
WBGX	US IL		HARVEY	294.83	17.39	27.88	132.10	5.60	2119.82	115.81	2004.01	
				50% = 19.488,	25% = 22.403;	XERF/A=19.49	WILO=6.75	WFRL=6.23	WSCO=6.14			
WBGX	US IL		HARVEY	294.83	17.39	27.88	132.10	5.60	2119.82	115.81	2004.01	
				50% = 19.488,	25% = 22.403;	XERF/A=19.49	WILO=6.75	WFRL=6.23	WSCO=6.14			
WFBR	US MD		GLEN BURNIE	98.27	13.42	22.23	97.55	4.19	2145.23	134.35	2010.88	
				50% = 15.441,	25% = 16.742;	WAKR=15.44	WHGT=6.47					
WTLK	US NC		TAYLORSVILLE	160.67	15.43	25.12	119.98	5.40	2249.04	227.75	2021.29	
				50% = 20.408,	25% = 21.588;	XERF/A=17.58	UNK-A=10.37	WNCA=7.04				
NEW	US VA		POWHATAN	121.20	14.44	23.70	108.85	5.05	2319.15	233.59	2085.56	
				50% = 16.64,	25% = 20.195;	XERF/A=12.73	UNK-A=7.67	CFOR/ =7.48	WNCA=6.62	WNST=5.79	WQEW=5.28	WTLK=5.07
KIRT	US TX		MISSION	227.59	0.00	1.81	12.72	6.28	2468.05	230.43	2237.62	
				50% = 23.755,	25% = 25.111;	XEDM/A=17.76	XERF/A=15.77	KMIK=8.14				
XEDM/O	MX SO		HERMOSILLO	253.21	0.00	0.00	4.17	2.11	2535.53	268.16	2267.37	
				50% = 4.228,	25% = 5.313;	XEST/A=3.61	NEW/A=2.20	KBLA=1.90	KMIK=1.73	KGAF=1.40	KWED=1.33	
XEDM/A	MX SO		HERMOSILLO	253.03	0.00	0.00	4.13	2.12	2570.69	268.15	2302.55	
				50% = 4.249,	25% = 5.332;	XEST/A=3.65	NEW/A=2.18	KBLA=1.90	KMIK=1.77	KGAF=1.37	KIRT=1.32	
NEW	US PA		KEARSARGE	46.36	23.32	35.80	186.51	8.68	2327.16	23.66	2303.50	
				50% = 34.724,	25% = 34.724;	WAKR=34.72						
NEW	US PA		KEARSARGE	46.36	23.32	35.80	186.51	8.68	2327.16	23.66	2303.50	
				50% = 34.724,	25% = 34.724;	WAKR=34.72						
NEW	US PA		KEARSARGE	46.36	23.32	35.80	186.51	8.68	2327.16	23.66	2303.50	
				50% = 34.724,	25% = 34.724;	WAKR=34.72						
NEW	US VA		ETTRICK	121.49	12.88	21.45	94.84	4.82	2542.39	236.86	2305.53	
				50% = 14.678,	25% = 19.29;	XERF/A=12.43	UNK-A=7.81	CFOR/ =7.10	WNCA=6.59	WNST=5.75	WQEW=5.45	



Call Margin Letters	Ct	St	City	Azi (deg)	Ang Low (deg)	Ang High (deg)	SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)	(mV/m)
WSCO		US WI	APPLETON	318.05	11.10	18.84	71.87	5.80	4033.09	26.64	4006.45
50% = 18.653, 25% = 23.188; XERF/A=15.47 WBGX=10.42 CFOR/ =8.66 WLKD=7.93 WKBH=7.21											
WAUB		US NY	AUBURN	56.99	11.77	19.82	78.33	6.34	4045.65	23.91	4021.74
50% = 22.693, 25% = 25.351; WHGT=16.91 WAKR=15.13 WFBR=11.30											
NEW		US MI	BIG RAPIDS	333.28	16.59	26.77	121.21	9.89	4078.51	22.69	4055.82
50% = 39.548, 25% = 39.548; WONX=27.92 WTVB=20.11 WAKR=19.49											
WASB		US NY	BROCKPORT	48.34	13.66	22.58	94.49	8.82	4664.92	26.27	4638.66
50% = 32.392, 25% = 35.264; WAKR=27.08 WHGT=17.77 WFBR=10.78 WAUB=8.85											
NEW		US MI	ACME	339.01	13.05	21.70	87.47	8.35	4771.20	25.82	4745.38
50% = 30.909, 25% = 33.387; CHLO/A=26.54 CFOR/ =15.84 XERF/A=12.62											
KMIC		US TX	HOUSTON	228.84	1.50	4.84	19.59	1.98	5048.46	233.01	4815.45
50% = 5.797, 25% = 7.913; KDAV=3.13 KDAE=2.92 WALG=2.85 KVGB=2.68 WZRXX=2.49 XE0067/A=2.34 WRXB=2.18 XEPNA/A=2.08 WNTS=2.06 KELP=2.01											
CMHQ-C		CU	SANTA CRUZ S	166.22	0.02	0.02	3.18	3.27	5142.23	222.57	4919.66
50% = 2.301, 25% = 2.922; WEKO=1.50 HIWJ-C=1.24 HJQZ-A=1.23 WSRF=1.07 WCCF=0.86 HJLC-A=0.82 TMS-A=0.82											
KDAV		US TX	LUBBOCK	252.43	0.41	3.35	14.52	1.53	5279.11	268.05	5011.06
50% = 4.354, 25% = 6.18; KMIC=2.75 KELP=2.43 XEDM/A=2.34 KVGB=2.17 XEPNA/A=1.90 XECSI/A=1.82 XE0067/A=1.68 KRVA=1.56 XEHC/A=1.53											
TIMS-A		CS	GUANACASTE	184.97	0.00	0.00	1.16	1.27	5460.26	193.88	5266.38
50% = 2.152, 25% = 3.116; XE/A=1.80 HJQZ-A=1.19 HCUA4-A=1.04 HJLC-A=0.99 XEUY/A=0.98 HJOE-A=0.89 HCHA2-A=0.81 HJKF-A=0.78											
NEW		US ID	FISCHER	289.08	0.00	0.00	4.15	4.54	5465.91	153.70	5312.21
50% = 17.125, 25% = 18.148; NEW/A=14.23 XEDM/A=9.52 KGAL=6.01											
NEW		US AL	OPP	197.92	5.75	10.91	41.90	4.75	5663.18	189.92	5473.26
50% = 18.985, 25% = 18.985; WALG=14.97 WVNA=11.68											
WFTU		US NY	RIVERHEAD	80.46	7.37	13.30	45.87	5.29	5766.99	49.78	5717.21
50% = 16.075, 25% = 21.162; LAVAL/A=13.43 CFOR/ =8.84 XERF/A=7.51 WISP=7.31 WPEP=7.16 WVTL=5.32											
WLKD		US WI	MINOCQUA	321.51	7.77	13.89	44.69	5.31	5940.88	21.52	5919.36
50% = 15.829, 25% = 21.24; XERF/A=13.89 CFOR/ =7.59 WSCO=7.09 WKBH=6.94 WFRL=6.07 WBGX=6.07 CHLO/A=5.34											
WTRW		US WI	DENMARK	321.46	11.70	19.73	76.76	9.29	6053.23	21.75	6031.48
50% = 31.95, 25% = 37.17; WONX=31.95 WTVB=14.92 WAKR=11.76											
WVTL		US NY	AMSTERDAM	63.60	8.51	14.99	52.13	6.40	6134.92	21.36	6113.56
50% = 24.491, 25% = 25.587; LAVAL/A=17.00 CFOR/ =13.06 WQEW=11.85 XERF/A=7.41											
WRXB		US FL	ST. PETERSBURG	178.93	2.90	6.79	26.44	3.39	6417.81	200.56	6217.24
50% = 11.048, 25% = 13.576; WALG=11.05 KMIC=4.42 WOKB=3.88 WZRXX=3.84 WKTP=3.59											
WKBH		US WI	HOLMEN	304.73	8.25	14.60	50.20	6.44	6419.01	69.62	6349.40
50% = 23.685, 25% = 25.777; XERF/A=18.50 WFRL=14.79 WLKD=7.40 WSCO=6.98											
XE/A		MX CS	TAPACHULA	200.62	0.00	0.00	3.78	4.97	6577.43	190.86	6386.57
50% = 9.948, 25% = 12.026; XEUY/A=7.54 XETBV/A=6.49 XELI/A=4.92 TMS-A=4.63											
NEW		US UT	WASHINGTON	272.80	0.00	0.00	6.05	8.17	6757.91	232.88	6525.03
50% = 32.684, 25% = 32.684; XEDM/A=26.03 KMIK=19.76											
NEW		US VT	WINOOSKI	55.30	6.58	12.13	37.28	4.93	6616.75	25.61	6591.14
50% = 17.52, 25% = 19.731; WSMN=13.20 WAUB=8.30 WAKR=7.99 WASB=6.98 WHGT=5.80											
NEW		US VT	ESSEX JUNCTION	55.49	6.54	12.07	37.01	4.96	6701.56	25.54	6676.02
50% = 15.906, 25% = 19.844; WSMN=13.71 WAUB=8.06 WAKR=7.86 WASB=6.83 WHGT=5.69											
XETBV/A		MX VC	TIERRA BLANCA	212.04	0.00	0.00	4.52	6.37	7039.10	201.92	6837.17
50% = 13.628, 25% = 15.006; XEUY/A=9.10 XELI/A=7.89 XE/A=6.37 XEDM/A=6.28											
XEUY/A		MX VC	NANCHITAL	207.54	0.00	0.00	4.71	6.63	7041.71	196.32	6845.39
50% = 13.477, 25% = 14.281; XETBV/A=9.11 XE/A=7.39 XELI/A=6.63 XEDM/A=4.72											
NEW		US MT	LOLO	297.06	0.00	0.00	4.18	6.20	7423.33	109.05	7314.29
50% = 23.892, 25% = 24.796; NEW/A=23.89 XEDM/A=6.63											
TGPY-D		GT	PAYAKI	194.21	0.00	0.00	1.55	2.39	7724.43	189.49	7534.94
50% = 4.781, 25% = 5.14; XE/A=3.24 TMS-A=2.56 XEUY/A=2.41 XETBV/A=1.89											

Call Margin Letters	Ct St City	Azi (deg)	Ang Low (deg)	Ang High (deg)	SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)		
KGAL	US OR LEBANON	292.10	0.00	0.00	2.58	4.00	7765.02	136.75	7628.28	
	50% = 14.495, 25% = 16.009; NEW/A=14.49 XEDM/A=6.80									
NEW	US CA RED BLUFF	283.20	0.00	0.00	3.20	5.06	7922.88	185.70	7737.18	
	50% = 18.151, 25% = 20.254; KMIK=10.84 XEDM/A=10.81 KGAL=9.74 NEW/A=8.99									
KCNN	US MN EAST GRAND FORK	312.42	2.60	6.36	15.73	2.45	7777.75	39.06	7738.69	
	50% = 8.664, 25% = 10.017; KVGB=7.46 KWBG=4.40 WPVL=3.39 KZGX=2.79 WAKR=2.45									
NEW	US CA ANDERSON	283.88	0.00	0.00	3.15	5.06	8034.23	182.13	7852.09	
	50% = 20.233, 25% = 20.233; KGAL=10.67 XEDM/A=10.42 KMIK=10.03 NEW/A=9.29									
XEFRT1/A	MX CS COMITAN	201.16	0.00	0.00	4.25	6.88	8100.25	191.14	7909.11	
	50% = 14.548, 25% = 15.961; XE/A=9.80 XEUY/A=8.26 XETBV/A=6.88 XELI/A=5.08 TIMS-A=4.16									
NEW	US CA REDDING	283.95	0.00	0.00	3.13	5.07	8112.36	181.76	7930.60	
	50% = 20.296, 25% = 20.296; KGAL=10.92 XEDM/A=10.34 KMIK=9.97 NEW/A=9.29									
NEW	US CA SHASTA LAKE CIT	284.17	0.00	0.00	3.12	5.07	8123.96	180.58	7943.38	
	50% = 20.293, 25% = 20.293; KGAL=11.13 XEDM/A=10.25 KMIK=9.71 NEW/A=9.42									
XE0042/O	MX HG TULANCINGO	217.99	0.00	0.00	4.81	7.92	8238.61	211.49	8027.12	
	50% = 15.842, 25% = 17.979; XEDM/A=10.54 XETBV/A=8.54 XELI/A=8.18 XEUY/A=7.12 XE/A=4.64									
KBLA	US CA SANTA MONICA	269.28	0.00	0.00	4.48	7.46	8323.23	244.81	8078.42	
	50% = 28.304, 25% = 29.844; XEDM/A=28.30 KMIK=9.46									
NEW	US TX KERRVILLE	237.87	0.34	3.26	15.25	2.55	8376.36	251.31	8125.05	
	50% = 8.778, 25% = 10.216; KDAV=5.90 KMIC=5.05 KELP=4.10 KDAE=3.57 XE0067/A=2.70 XEPNA/A=2.70									
NEW	US TX KERRVILLE	237.91	0.33	3.25	15.23	2.55	8386.95	251.37	8135.58	
	50% = 8.757, 25% = 10.216; KDAV=5.88 KMIC=5.01 KELP=4.12 KDAE=3.62 XE0067/A=2.70 XEPNA/A=2.70									
NEW	US TX KERRVILLE	237.91	0.33	3.25	15.23	2.55	8386.95	251.37	8135.58	
	50% = 8.757, 25% = 10.216; KDAV=5.88 KMIC=5.01 KELP=4.12 KDAE=3.62 XE0067/A=2.70 XEPNA/A=2.70									
KYCR	US MN GOLDEN VALLEY	306.00	5.82	11.01	33.29	5.52	8285.15	63.94	8221.21	
	50% = 17.765, 25% = 22.063; XERF/A=17.77 WFRL=8.50 WKBH=7.66 WLKD=6.34									
NEW	US CA MT. SHASTA CITY	285.41	0.00	0.00	3.07	5.16	8403.25	173.93	8229.32	
	50% = 18.851, 25% = 20.627; KGAL=12.65 NEW/A=10.10 XEDM/A=9.66 KMIK=8.37									
KDAE	US TX SINTON	229.30	0.10	2.95	14.98	2.68	8930.84	234.03	8696.81	
	50% = 8.472, 25% = 10.7; KMIC=7.48 KDAV=3.98 KELP=3.57 XE0067/A=3.48 XEPNA/A=3.04 XEAGA/A=2.94									
XEAF1/O	MX GT APASEO EL GRAND	223.07	0.00	0.00	4.43	7.98	9008.87	221.14	8787.73	
	50% = 15.96, 25% = 19.894; XEDM/A=15.96 XELI/A=7.82 XETBV/A=6.89 XEUY/A=5.69									
XEAF/A	MX GT OJO SECO	223.05	0.00	0.00	4.35	7.91	9092.42	221.10	8871.33	
	50% = 17.685, 25% = 19.804; XEDM/A=15.82 XELI/A=7.91 XETBV/A=6.88 XEUY/A=5.67									
XELI/A	MX GR CHILPANCINGO	217.20	0.00	0.00	3.67	6.67	9084.20	210.10	8874.10	
	50% = 13.343, 25% = 14.207; XEDM/A=8.31 XETBV/A=7.99 XEUY/A=6.71 XE/A=4.88									
NEW	US CA CUTTEN	284.94	0.00	0.00	2.79	5.11	9176.21	176.44	8999.77	
	50% = 18.332, 25% = 20.449; KGAL=13.05 XEDM/A=9.13 NEW/A=9.08 KMIK=9.06									
XEVAB1/A	MX MX VALLE DE BRAVO	220.31	0.00	0.00	4.07	7.58	9295.23	215.75	9079.48	
	50% = 16.882, 25% = 18.021; XEDM/A=12.05 XELI/A=9.08 XETBV/A=7.58 XEUY/A=6.30									
NEW	US WA COLLEGE PLACE	294.97	0.00	0.00	3.22	6.03	9380.90	120.59	9260.31	
	50% = 22.04, 25% = 24.134; NEW/A=22.04 KGAL=7.17 XEDM/A=6.73									
WVOJ	US FL ORANGE PARK	174.20	4.94	9.72	37.04	7.20	9724.44	207.52	9516.92	
	50% = 28.818, 25% = 28.818; XERF/A=21.33 UNK-A=19.37									
WPEP	US MA TAUNTON	74.66	5.76	10.93	34.45	6.59	9567.81	31.22	9536.59	
	50% = 21.377, 25% = 26.366; LAVAL/A=21.38 WQEW=10.59 WFTU=9.00 CFOR/=6.70									
WVOJ	US FL ORANGE PARK	174.14	4.87	9.62	36.63	7.22	9855.48	207.61	9647.87	
	50% = 28.882, 25% = 28.882; XERF/A=21.30 UNK-A=19.50									
NEW	US OR CENTRAL POINT	287.65	0.00	0.00	2.84	5.83	10255.40	161.67	10093.73	
	50% = 20.739, 25% = 23.334; KGAL=17.49 NEW/A=11.15 XEDM/A=8.45 KMIK=6.55									
WXRF	US PR GUAYAMA	141.85	0.00	0.00	7.23	1.51	10416.17	265.81	10150.36	
	50% = 5.096, 25% = 6.022; HIDA-C=4.13 WKTP=2.99 WRXB=1.70 WARV=1.60 HJJQ-A=1.59 KMIC=1.51									
KMIK	US AZ TEMPE	263.18	0.00	0.00	6.76	14.18	10486.80	259.69	10227.11	
	50% = 56.711, 25% = 56.711; XEDM/A=56.71									

Call Margin Letters	Ct St City	Azi (deg)	Ang Low (deg)	Ang High (deg)	SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)		
XEQ050/A	MX CI SALTILLO	231.34	0.00	0.00	6.77	14.26	10539.96	238.30	10301.65	
	50% = 28.527, 25% = 29.588; XEDM/A=28.53 KMIK=7.85									
KAKK	US MN WALKER	313.68	3.99	8.35	21.98	4.66	10609.61	35.39	10574.22	
	50% = 17.374, 25% = 18.753; XERF/A=14.12 CKMW/A=10.12 KYCR=5.30 WFRL=4.66									
KAKK	US MN WALKER	313.66	3.99	8.35	21.98	4.67	10613.02	35.45	10577.56	
	50% = 17.377, 25% = 18.756; XERF/A=14.13 CKMW/A=10.12 KYCR=5.30 WFRL=4.67									
XEQL/A	MX MC ZAMORA	225.02	0.00	0.00	3.92	8.91	11369.74	225.11	11144.63	
	50% = 17.827, 25% = 20.331; XEDM/A=17.83 XELI/A=7.57 XETBV/A=6.19									
NEW	US WA VERADALE	298.53	0.00	0.00	3.18	7.73	12153.09	101.08	12052.00	
	50% = 30.901, 25% = 30.901; NEW/A=30.90									
KELP	US TX EL PASO	253.62	0.00	0.76	9.58	2.44	12743.76	268.17	12475.59	
	50% = 8.073, 25% = 9.772; XEDM/A=5.37 KDAV=4.62 KMIK=3.88 XECSI/A=3.12 XEHC/A=2.76 XEPNA/A=2.56 KDAE=2.52									
KELP	US TX EL PASO	253.62	0.00	0.76	9.58	2.44	12743.76	268.17	12475.59	
	50% = 8.073, 25% = 9.772; XEDM/A=5.37 KDAV=4.62 KMIK=3.88 XECSI/A=3.12 XEHC/A=2.76 XEPNA/A=2.56 KDAE=2.52									
NEW	US WA MEADE	298.93	0.00	0.00	3.10	8.01	12923.15	98.91	12824.24	
	50% = 32.056, 25% = 32.056; NEW/A=32.06									
KBCV	US MO HOLLISTER	250.08	6.22	11.60	42.24	12.41	14689.36	265.00	14424.36	
	50% = 49.636, 25% = 49.636; XERF/A=49.64									
KBCV	US MO HOLLISTER	250.08	6.22	11.60	42.24	12.41	14689.36	265.00	14424.36	
	50% = 49.636, 25% = 49.636; XERF/A=49.64									
NEW	US UT MOAB	274.38	0.00	0.82	8.06	3.17	19696.90	226.79	19470.10	
	50% = 11.813, 25% = 12.695; KDAV=7.94 KVGB=6.43 KKZZ=5.93 KELP=4.65									
HIWJ-C	DR SAMANA	146.75	0.00	0.00	1.92	8.40	21854.47	260.19	21594.28	
	50% = 5.425, 25% = 5.592; WEKO=4.26 WSRF=3.36 HJQZ-A=1.36									
NEW	US WY CHEYENNE	280.64	0.31	3.23	11.67	5.47	23419.90	198.65	23221.25	
	50% = 20.642, 25% = 21.864; KVGB=20.64 KDAV=7.21									
NEW	US WY CHEYENNE	280.89	0.35	3.27	11.74	5.53	23553.78	197.43	23356.35	
	50% = 20.949, 25% = 22.117; KVGB=20.95 KDAV=7.09									
NEW	US WY CHEYENNE	280.89	0.35	3.27	11.74	5.53	23553.78	197.43	23356.35	
	50% = 20.949, 25% = 22.117; KVGB=20.95 KDAV=7.09									
KLIV	US CA SAN JOSE	277.51	0.00	0.00	3.48	1.67	23905.05	213.44	23691.61	
	50% = 4.626, 25% = 6.692; XEHC/A=3.76 KGST=2.70 XEYX/A=2.04 KKZZ=2.02 KDAV=1.87 KMIK=1.78 KELP=1.69 KBLA=1.69 KVGB=1.67									
NEW	US CA SAN LUIS OBISPO	273.03	0.00	0.00	3.85	18.75	24368.56	232.00	24136.55	
	50% = 72.463, 25% = 75.011; KBLA=72.46 XEDM/A=19.38									
NEW	US CA SAN LUIS OBISPO	273.02	0.00	0.00	3.85	18.81	24426.53	232.05	24194.47	
	50% = 72.678, 25% = 75.224; KBLA=72.68 XEDM/A=19.41									
XEST/A	MX SI MAZATLAN	236.64	0.00	0.00	3.90	20.71	26515.21	248.99	26266.22	
	50% = 41.416, 25% = 41.416; XEDM/A=41.42									
NEW	US HI HILO	274.68	0.00	0.00	0.96	0.59	30397.28	225.56	30171.72	
	50% = 2.261, 25% = 2.342; KLIV=1.92 KKZZ=1.19 KBLA=0.61									
KLFE	US WA SEATTLE	298.35	0.00	0.00	2.21	1.42	32177.04	102.06	32074.98	
	50% = 4.866, 25% = 5.685; KMBD=4.33 NEW/A=2.22 KLIV=2.17 KVGB=1.98									
HCAE5-A	EC GIRON	174.50	0.00	0.00	0.50	3.55	35280.51	207.22	35073.29	
	50% = 7.106, 25% = 8.913; HCHA2-A=5.92 HCCP2-A=3.94 HCLF1-A=3.38 HCAB3-A=3.01 HCUA4-A=2.91									
HJQZ-A	CO BARRANQUILLA	163.79	0.00	0.00	1.12	8.43	37664.72	227.57	37437.15	
	50% = 5.373, 25% = 6.011; HJLC-A=3.73 HJNN-A=3.00 HJKF-A=2.45 HJOE-A=2.20 WEKO=1.56									
NEW	US NV PARADISE	271.24	0.00	0.00	5.41	4.27	39385.22	238.44	39146.78	
	50% = 14.229, 25% = 17.061; KKZZ=14.23 XEHC/A=6.76 XEYX/A=4.74 KMIK=4.53									
NEW	US NV PARADISE	271.24	0.00	0.00	5.41	4.27	39389.41	238.44	39150.97	
	50% = 14.229, 25% = 17.063; KKZZ=14.23 XEHC/A=6.76 XEYX/A=4.74 KMIK=4.53									
KMBD	US OR TILLAMOOK	293.98	0.00	0.00	2.31	1.83	39607.77	126.15	39481.61	
	50% = 6.35, 25% = 7.33; KLFE=6.35 KLIV=3.12 KVGB=1.92									



Call Rad	Margin		Azi	Ang Low	Ang High	SWFF	Req Prot	Permis	Cur		
Letters	Ct	St City	(deg)	(deg)	(deg)	(100uV/m)	(mV/m)	(mV/m)	(mV/m)	(mV/m)	(mV/m)
CV158-A	UY	EL PORORO	156.57	0.00	0.00	0.16	1.84	56806.14	242.63	56563.50	
50% = 3.554, 25% = 4.396; CW158-A=2.32 LT36-A=2.08 CX158-A=1.70 ZYK-339-A=1.68 LT27-A=1.48 ZYK-807-A=1.29											
CX158-A	UY	DOLORES	159.02	0.00	0.00	0.17	1.92	57460.02	237.56	57222.46	
50% = 3.507, 25% = 4.354; CW158-A=2.32 CW54-A=2.04 CV158-A=1.66 LT36-A=1.53 ZYK-339-A=1.39 ZYK-807-A=1.10 CC 158-A=1.09											
UNK-A	BR	PALMAR DO SU	151.55	0.00	0.00	0.17	1.98	58491.66	252.38	58239.28	
50% = 4.108, 25% = 5.158; CW54-A=3.60 CW158-A=1.98 ZYK-807-A=1.86 ZYK-339-A=1.61 ZYJ818-A=1.40 CV158-A=1.30											
ZYK-807-A	BR	ENCANTADO	152.21	0.00	0.00	0.17	2.06	58779.35	251.16	58528.18	
50% = 4.114, 25% = 5.153; CW54-A=3.52 CW158-A=2.13 ZYK-339-A=1.58 ZYJ818-A=1.44 LT36-A=1.33 LT27-A=1.30 CV158-A=1.27											
HCCP2-A	EC	CANAL DEL PU	175.21	0.00	0.00	0.53	6.32	59051.04	206.07	58844.97	
50% = 7.751, 25% = 9.079; HCAE5-A=6.82 HCLF1-A=3.69 HCUA4-A=3.31 HCAB3-A=2.55 HCTI6-A=2.21											
ZYH515-A	BR	BARRA DO MEN	134.66	0.00	0.00	0.23	2.73	59121.44	267.91	58853.53	
50% = 2.921, 25% = 3.113; ZYH-464-A=1.59 ZYL-329-A=1.57 ZYH-486-A=1.34 ZYI-898-A=1.32 ZYK-626-A=1.08											
CW158-A	UY	TRANQUERAS	156.20	0.00	0.00	0.17	2.05	59326.63	243.39	59083.24	
50% = 4.539, 25% = 5.574; CW54-A=4.05 LT36-A=2.05 ZYK-339-A=1.68 CX158-A=1.66 CV158-A=1.62 ZYK-807-A=1.50											
NEW	US OR	HARBECK-FRUITDA	287.87	0.00	0.00	2.77	3.30	59606.49	160.45	59446.04	
50% = 13.185, 25% = 13.185; XERF/A=11.36 KCVR=6.70											
KCVR	US CA	LODI	278.68	0.00	0.00	3.58	4.36	60916.21	208.11	60708.10	
50% = 16.526, 25% = 17.423; XERF/A=16.53 KNZR=5.52											
UNK-A	BR	TEOLANDIA	133.48	0.00	0.00	0.21	2.61	61160.35	267.42	60892.92	
50% = 3.033, 25% = 3.323; ZYH-464-A=1.96 ZYH-486-A=1.73 ZYL-329-A=1.53 ZYI-898-A=0.97 ZYK-626-A=0.95											
UNK-A	BR	SAO JOAO	151.50	0.00	0.00	0.19	2.34	61753.50	252.47	61501.03	
50% = 3.241, 25% = 4.258; CW54-A=2.25 CW158-A=1.72 ZYK-807-A=1.57 ZYJ818-A=1.45 ZYI-415-A=1.28 ZYK-504-A=1.17 ZYK-339-A=1.15 LT27-A=1.08											
UNK-A	BR	CANINDE	127.23	0.00	0.00	0.26	3.28	62085.59	260.42	61825.17	
50% = 2.284, 25% = 2.447; ZYK-626-A=1.80 ZYI-898-A=1.40 ZYH-464-A=0.88											
LRJ366-A	AR	LAS VARILLAS	162.26	0.00	0.00	0.18	2.30	64531.26	230.75	64300.51	
50% = 3.275, 25% = 4.166; LT36-A=2.02 CC 158-A=1.92 CW158-A=1.72 CX158-A=1.47 LT27-A=1.40 CW54-A=1.18 CV158-A=1.06											
HCHA2-A	EC	ELOY ALFARO	175.39	0.00	0.00	0.53	6.89	65328.21	205.79	65122.42	
50% = 7.247, 25% = 9.081; HCAE5-A=7.25 HCLF1-A=3.58 HCUA4-A=3.20 HCAB3-A=2.62											
ZYI-898-A	BR	FLORIANO 1	132.35	0.00	0.00	0.27	3.49	65464.63	266.72	65197.91	
50% = 1.959, 25% = 2.076; ZYK-626-A=1.39 ZYH-464-A=1.05 ZYL-329-A=0.90 ZYH-486-A=0.69											
UNK-A	BR	S J DO EGITO	127.55	0.00	0.00	0.24	3.13	66218.55	260.97	65957.58	
50% = 2.492, 25% = 2.74; ZYK-626-A=1.74 ZYH-464-A=1.28 ZYI-898-A=1.24 ZYH-486-A=0.86 ZYL-329-A=0.75											
UNK-A	BR	CONCHAS	146.12	0.00	0.00	0.19	2.56	66249.16	261.07	65988.09	
50% = 3.076, 25% = 3.868; ZYK-504-A=1.92 ZYL-290-A=1.40 ZYL210-A=1.39 ZYJ818-A=1.38 ZYJ-487-A=1.15 ZYK-807-A=1.06 CW54-A=1.03 ZYH-775-A=1.02 ZYI-415-A=0.96											
UNK-A	BR	TERESOPOLIS	141.56	0.00	0.00	0.18	2.47	66875.90	266.04	66609.87	
50% = 3.145, 25% = 3.881; ZYL-290-A=1.95 ZYJ-487-A=1.93 ZYL210-A=1.54 ZYK-504-A=1.53 ZYL-329-A=0.99 ZYJ818-A=0.97 ZYH-486-A=0.95											
LRH366-A	AR	VILLA BERTHE	158.84	0.00	0.00	0.20	2.62	67139.93	237.92	66902.01	
50% = 3.022, 25% = 3.827; CW158-A=1.79 CW54-A=1.74 LT36-A=1.71 LT27-A=1.47 CX158-A=1.14 ZYI-415-A=1.05 ZYK-807-A=0.97											
UNK-A	BR	GUARANESIA	144.21	0.00	0.00	0.20	2.71	68556.20	263.46	68292.74	
50% = 2.94, 25% = 3.73; ZYK-504-A=1.83 ZYL210-A=1.65 ZYL-290-A=1.60 ZYJ-487-A=1.28 ZYH-775-A=1.15 ZYJ818-A=1.14 ZYL-329-A=1.00											
UNK-A	BR	DIVINO	139.87	0.00	0.00	0.19	2.66	70005.22	267.18	69738.04	
50% = 2.987, 25% = 3.718; ZYL-290-A=1.83 ZYJ-487-A=1.78 ZYL210-A=1.55 ZYK-504-A=1.36 ZYL-329-A=1.24 ZYH-486-A=1.23											
KPRO	US CA	RIVERSIDE	268.40	0.00	0.00	4.73	6.72	71077.15	247.41	70829.74	
50% = 26.876, 25% = 26.876; XERF/A=26.88											
ZYL210-A	BR	ITAPECERICA	142.21	0.00	0.00	0.20	2.82	71333.74	265.49	71068.24	
50% = 2.841, 25% = 3.537; ZYL-290-A=1.81 ZYK-504-A=1.64 ZYJ-487-A=1.46 ZYL-329-A=1.22 ZYH-775-A=1.04 ZYH-486-A=0.99 ZYJ818-A=0.94											

Call Rad	Margin		Azi	Ang Low	Ang High	SWFF	Req Prot	Permis	Cur	
Letters	Ct St City		(deg)	(deg)	(deg)	(100uV/m)	(mV/m)	(mV/m)	(mV/m)	(mV/m)
ZYK-626-A	BR	JAGUARIBE	127.63	0.00	0.00	0.25	3.59	71398.49	261.10	71137.39
50% = 1.769, 25% = 2.007; ZYI-898-A=1.39 ZYH-464-A=1.09 ZYH-486-A=0.68 ZYL-329-A=0.66										
UNK-A	BR	CEARA MIRIM	124.67	0.00	0.00	0.24	3.42	71725.44	255.29	71470.15
50% = 2.077, 25% = 2.156; ZYK-626-A=1.58 ZYI-898-A=0.97 ZYH-464-A=0.94 ZYH-486-A=0.58										
ZYJ818-A	BR	POMERODE	148.89	0.00	0.00	0.18	2.61	72443.30	256.95	72186.35
50% = 3.032, 25% = 3.78; CW54-A=2.15 ZYK-807-A=1.57 CW158-A=1.45 ZYK-504-A=1.38 ZYK-339-A=1.14 ZYL-290-A=1.00 ZYL210-A=0.94										
ZYL-290-A	BR	SANTOS DUMON	141.50	0.00	0.00	0.19	2.77	72852.84	266.09	72586.76
50% = 2.888, 25% = 3.396; ZYJ-487-A=1.74 ZYL210-A=1.69 ZYK-504-A=1.57 ZYL-329-A=1.12 ZYH-486-A=1.02 ZYJ818-A=0.94										
ZYK-504-A	BR	AMPARO	144.88	0.00	0.00	0.19	2.81	73136.00	262.66	72873.34
50% = 2.852, 25% = 3.379; ZYL-290-A=1.57 ZYL210-A=1.53 ZYJ-487-A=1.29 ZYJ818-A=1.29 ZYH-775-A=0.99 ZYK-807-A=0.94 CW54-A=0.86 ZYL-329-A=0.83										
UNK-A	BR	CAMBE	149.10	0.00	0.00	0.20	2.91	73228.98	256.60	72972.39
50% = 2.749, 25% = 3.695; ZYK-504-A=1.43 ZYJ818-A=1.37 CW54-A=1.35 ZYI-415-A=1.35 ZYK-807-A=1.24 CW158-A=1.13 ZYH-775-A=1.07 ZYL210-A=1.06 ZYL-290-A=1.00										
UNK-A	BR	TUPA	147.80	0.00	0.00	0.20	2.97	73244.32	258.66	72985.66
50% = 2.674, 25% = 3.455; ZYK-504-A=1.52 ZYI-415-A=1.30 ZYH-775-A=1.26 ZYJ818-A=1.24 ZYL210-A=1.21 ZYL-290-A=1.13 ZYK-807-A=1.02 CW54-A=1.00										
UNK-A	BR	IVINHEMA	149.82	0.00	0.00	0.21	3.02	73267.04	255.40	73011.64
50% = 2.627, 25% = 3.477; ZYI-415-A=1.55 ZYK-504-A=1.28 ZYH-775-A=1.20 ZYJ818-A=1.19 CW54-A=1.15 ZYK-807-A=1.08 CW158-A=1.03 ZYL210-A=0.95 ZYL-290-A=0.85										
NEW	US TX	FRITCH	259.17	0.96	4.10	15.70	23.08	73495.57	265.32	73230.25
50% = 92.339, 25% = 92.339; XERF/A=92.34										
KTGE	US CA	SALINAS	276.10	0.00	0.00	3.59	5.29	73719.66	219.67	73500.00
50% = 21.168, 25% = 21.168; XERF/A=17.20 KCVR=12.34										
ZYH-464-A	BR	MURITIBA	132.43	0.00	0.00	0.22	3.20	74061.04	266.78	73794.26
50% = 2.395, 25% = 2.7; ZYH-486-A=1.60 ZYL-329-A=1.41 ZYK-626-A=1.09 ZYI-898-A=1.05 ZYL-290-A=0.67										
ZYL-329-A	BR	ESPINOSA	137.20	0.00	0.00	0.22	3.24	74566.52	268.12	74298.40
50% = 2.345, 25% = 3.156; ZYH-486-A=1.49 ZYH-464-A=1.41 ZYL210-A=1.14 ZYL-290-A=1.12 ZYJ-487-A=0.95 ZYI-898-A=0.90 ZYH-775-A=0.89 ZYK-504-A=0.83										
UNK-A	BR	IBIUNA	145.76	0.00	0.00	0.19	2.83	74951.48	261.55	74689.93
50% = 2.828, 25% = 3.71; ZYK-504-A=1.97 ZYL-290-A=1.45 ZYJ818-A=1.42 ZYL210-A=1.39 ZYJ-487-A=1.22 ZYK-807-A=1.09 CW54-A=1.08										
ZYK-339-A	BR	ARROIO GRAND	154.43	0.00	0.00	0.17	2.49	75025.73	246.93	74778.80
50% = 5.393, 25% = 6.175; CW54-A=4.78 CW158-A=2.49 LT36-A=1.85 CV158-A=1.74 ZYK-807-A=1.61										
CD 158A-A	CI	COLLIPULLI	171.56	0.00	0.00	0.16	2.48	76615.18	212.29	76402.88
50% = 3.139, 25% = 3.328; CC 158-A=3.14 LT36-A=1.10										
UNK-A	BR	AFONSO CLAUD	138.73	0.00	0.00	0.19	2.91	76765.45	267.72	76497.73
50% = 2.741, 25% = 3.657; ZYL-290-A=1.66 ZYJ-487-A=1.66 ZYL210-A=1.41 ZYH-486-A=1.34 ZYL-329-A=1.28 ZYK-504-A=1.23 ZYH-464-A=0.95										
CD 158-A	CI	CANETE	172.30	0.00	0.00	0.16	2.53	77656.53	210.98	77445.55
50% = 3.101, 25% = 3.25; CC 158-A=3.10 LT36-A=0.97										
LT36-A	AR	CHACABUCO	161.22	0.00	0.00	0.17	2.59	78089.48	232.94	77856.53
50% = 3.051, 25% = 3.954; CW158-A=1.86 CX158-A=1.84 CC 158-A=1.56 CV158-A=1.38 LT27-A=1.37 CW54-A=1.14 ZYK-339-A=1.11										
UNK-A	BR	ITAPORANGA 1	147.72	0.00	0.00	0.19	3.05	79092.10	258.77	78833.32
50% = 2.585, 25% = 3.809; ZYK-504-A=1.65 ZYJ818-A=1.49 CW54-A=1.32 ZYK-807-A=1.24 ZYL-290-A=1.22 ZYL210-A=1.22 ZYI-415-A=1.12 CW158-A=1.04 ZYH-775-A=0.99										
CA 158-A	CI	HUASCO	169.01	0.00	0.00	0.20	3.21	79999.13	217.06	79782.08
50% = 2.381, 25% = 2.646; CC 158-A=2.38 LT36-A=0.95 LT27-A=0.66										
ZYJ-487-A	BR	CONC DE MACA	140.44	0.00	0.00	0.18	2.96	80500.95	266.85	80234.10
50% = 2.693, 25% = 3.181; ZYL-290-A=1.80 ZYL210-A=1.45 ZYK-504-A=1.38 ZYH-486-A=1.06 ZYL-329-A=1.02 ZYJ818-A=0.84										
ZYH-486-A	BR	CANAVIEIRAS	134.30	0.00	0.00	0.20	3.35	82766.14	267.79	82498.36
50% = 2.185, 25% = 2.766; ZYH-464-A=1.60 ZYL-329-A=1.49 ZYL-290-A=1.02 ZYJ-487-A=0.98 ZYL210-A=0.93										
ZYI-415-A	BR	JARDIM	152.75	0.00	0.00	0.22	3.61	82912.13	250.16	82661.97
50% = 1.728, 25% = 2.438; ZYH-775-A=1.07 CW158-A=0.97 CW54-A=0.95 ZYK-807-A=0.83 ZYJ818-A=0.82 ZYK-504-A=0.80 LT27-A=0.71 CP 135-A=0.67										



## Exhibit 16.2 Present Vs. Proposed Nighttime RSS Limitations

### Present Operation

Call: WVKO  
 Freq: 1580 kHz  
 COLUMBUS, OH, US  
 Lat: 40-02-50 N  
 Lng: 083-03-44 W  
 Power: 0.25 kW  
 Theo RMS: 157.10 mV/m @ 1km

Standard: FCC Rules (1992 Skywave Propagation Model) [ 10% ]  
 Contributors:

Call	Freq (kHz)	City	St	Ct	Limit (mV/m)	(%)	RSS Limit (mV/m)	
<u>WDND</u>	<u>1580</u>	<u>SOUTH BEND</u>	<u>IN</u>	<u>US</u>	<u>10.550</u>	<u>100.0</u>	<u>10.550</u>	<u>50%</u>
<u>WPGC</u>	<u>1580</u>	<u>MORNINGSIDE</u>	<u>MD</u>	<u>US</u>	<u>3.850</u>	<u>36.5</u>	<u>11.230</u>	
<u>XEDM/A</u>	<u>1580</u>	<u>HERMOSILLO</u>	<u>SO</u>	<u>MX</u>	<u>3.410</u>	<u>30.4</u>	<u>11.737</u>	<u>25%</u>
WKKD	1580	AURORA	IL	US	2.697	23.0	12.043	
XERF/A	1570	CD.ACUNA	CI	MX	1.615	13.4	12.150	
CHLO/A	1570	ST. THOMAS	ON	CA	1.318	10.8	12.222	
WAKR	1590	AKRON	OH	US	1.068	8.7	12.268	
WLIM	1580	PATCHOGUE	NY	US	0.988	8.1	12.308	
WSRF	1580	FORT LAUDERDALE	FL	US	0.781	6.3	12.333	

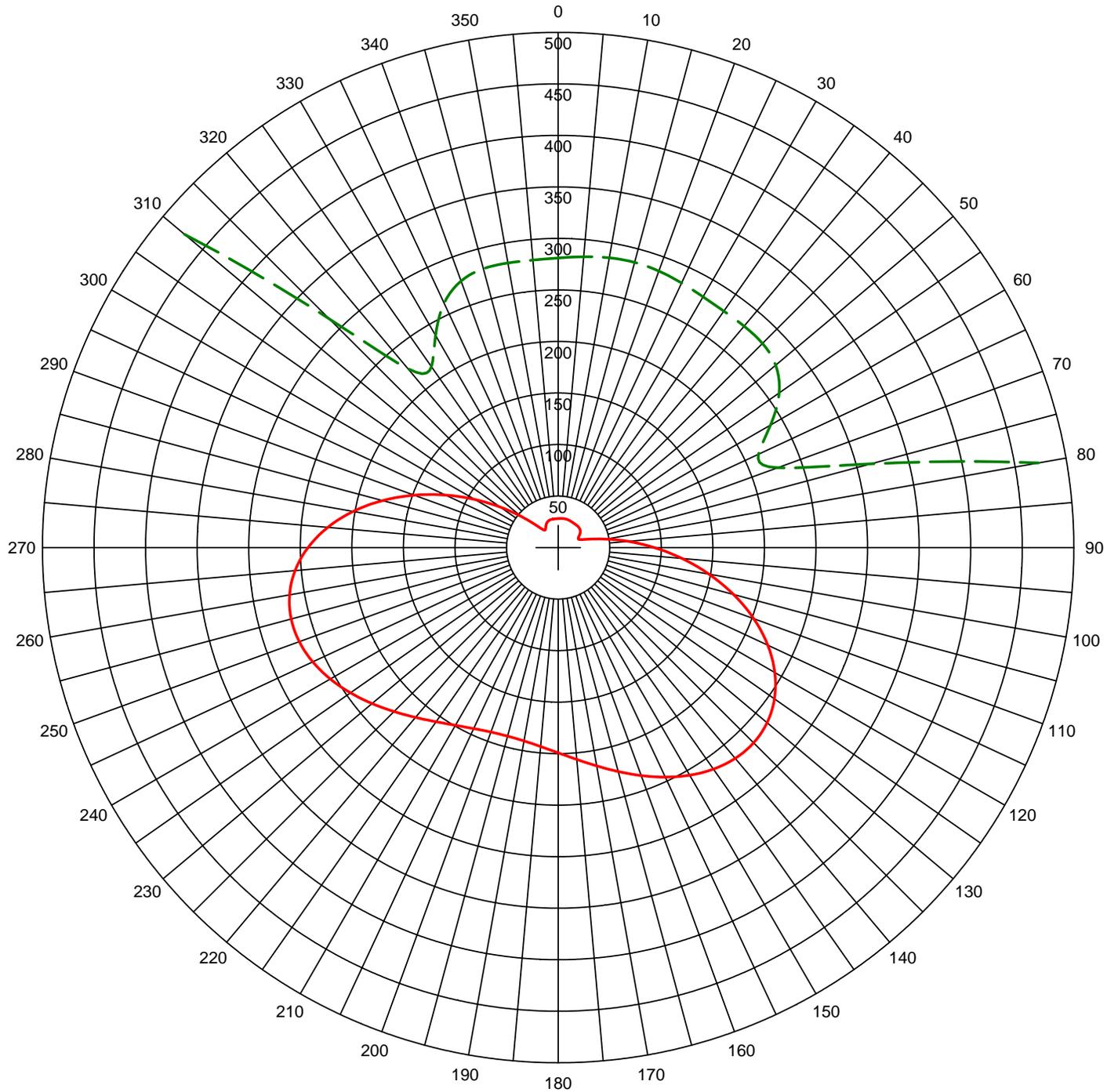
### Proposed Operation

Call: WVKO PN  
 Freq: 1580 kHz  
 COLUMBUS, OH, US  
 Lat: 40-03-42 N  
 Lng: 082-56-41 W  
 Power: 0.29 kW  
 Theo RMS: 161.71 mV/m @ 1km

Standard: FCC Rules (1992 Skywave Propagation Model) [ 10% ]  
 Contributors:

Call	Freq (kHz)	City	St	Ct	Limit (mV/m)	(%)	RSS Limit (mV/m)	
<u>WDND</u>	<u>1580</u>	<u>SOUTH BEND</u>	<u>IN</u>	<u>US</u>	<u>10.144</u>	<u>100.0</u>	<u>10.144</u>	<u>50%</u>
<u>WPGC</u>	<u>1580</u>	<u>MORNINGSIDE</u>	<u>MD</u>	<u>US</u>	<u>3.891</u>	<u>38.4</u>	<u>10.864</u>	
<u>XEDM/A</u>	<u>1580</u>	<u>HERMOSILLO</u>	<u>SO</u>	<u>MX</u>	<u>3.382</u>	<u>31.1</u>	<u>11.378</u>	<u>25%</u>
WKKD	1580	AURORA	IL	US	2.602	22.9	11.672	
XERF/A	1570	CD.ACUNA	CI	MX	1.600	13.7	11.781	
CHLO/A	1570	ST. THOMAS	ON	CA	1.376	11.7	11.861	
WAKR	1590	AKRON	OH	US	1.071	9.0	11.910	
WLIM	1580	PATCHOGUE	NY	US	1.006	8.5	11.952	
WSRF	1580	FORT LAUDERDALE	FL	US	0.783	6.6	11.978	
WCCF	1580	PUNTA GORDA	FL	US	0.678	5.7	11.997	

# Exhibit 16.3 - Proposed WVKO Nighttime Standard Pattern



Theo RMS: 161.707 mV/m@1km  
 Std RMS: 170.116 mV/m@1km  
 Q: 10.0 mV/m@1km

Horizontal Plane Standard Pattern

— Pattern (mV/m @ 1km)  
 - - - Pattern X10

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	90.0	0	0	0.0	0.0	0.0	0.0
2	2.000	-60.0	135.0	195.0	90.0	0	0	0.0	0.0	0.0	0.0
3	1.150	-140.0	270.0	195.0	90.0	0	0	0.0	0.0	0.0	0.0

Call: WVKO PROP  
 Freq: 1580 kHz  
 COLUMBUS, OH, US  
 Lat: 40-03-42 N  
 Lng: 082-56-41 W  
 Power: 0.29 kW  
 Theo RMS: 161.71 mV/m @ 1km

## Exhibit 16.4 Tabulation of Proposed Directional Standard Pattern, 0° - 60°

AM Radiation Report

Call: WVKO PROP  
 Freq: 1580 kHz  
 COLUMBUS, OH, US  
 Lat: 40-03-42 N  
 Lng: 082-56-41 W  
 Power: 0.29 kW  
 Theo RMS: 161.71 mV/m @ 1km

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	90.0	0	0	0.0	0.0	0.0	0.0
2	2.000	-60.0	135.0	195.0	90.0	0	0	0.0	0.0	0.0	0.0
3	1.150	-140.0	270.0	195.0	90.0	0	0	0.0	0.0	0.0	0.0

-----  
 Standard Horizontal Plane Pattern

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	28.10	5.0	28.33	10.0	28.55
15.0	28.65	20.0	28.55	25.0	28.33
30.0	28.10	35.0	28.01	40.0	28.05
45.0	28.02	50.0	27.53	55.0	26.15
60.0	23.78	65.0	21.43	70.0	22.65
75.0	31.39	80.0	47.30	85.0	68.43
90.0	93.26	95.0	120.44	100.0	148.55
105.0	176.15	110.0	201.80	115.0	224.27
120.0	242.55	125.0	256.03	130.0	264.47
135.0	268.00	140.0	267.11	145.0	262.52
150.0	255.10	155.0	245.79	160.0	235.50
165.0	225.06	170.0	215.17	175.0	206.41
180.0	199.20	185.0	193.85	190.0	190.57
195.0	189.46	200.0	190.57	205.0	193.85
210.0	199.20	215.0	206.41	220.0	215.17
225.0	225.06	230.0	235.50	235.0	245.79
240.0	255.10	245.0	262.52	250.0	267.11
255.0	268.00	260.0	264.47	265.0	256.03
270.0	242.55	275.0	224.27	280.0	201.80
285.0	176.15	290.0	148.55	295.0	120.44
300.0	93.26	305.0	68.43	310.0	47.30
315.0	31.39	320.0	22.65	325.0	21.43
330.0	23.78	335.0	26.15	340.0	27.53
345.0	28.02	350.0	28.05	355.0	28.01

Standard Pattern  
Calculated at 5.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	27.92	5.0	28.11	10.0	28.31
15.0	28.39	20.0	28.31	25.0	28.11
30.0	27.92	35.0	27.85	40.0	27.90
45.0	27.85	50.0	27.32	55.0	25.91
60.0	23.53	65.0	21.26	70.0	22.67
75.0	31.54	80.0	47.41	85.0	68.41
90.0	93.05	95.0	119.98	100.0	147.83
105.0	175.17	110.0	200.59	115.0	222.86
120.0	241.01	125.0	254.43	130.0	262.87
135.0	266.48	140.0	265.71	145.0	261.28
150.0	254.05	155.0	244.93	160.0	234.84
165.0	224.57	170.0	214.85	175.0	206.21
180.0	199.11	185.0	193.83	190.0	190.60
195.0	189.50	200.0	190.60	205.0	193.83
210.0	199.11	215.0	206.21	220.0	214.85
225.0	224.57	230.0	234.84	235.0	244.93
240.0	254.05	245.0	261.28	250.0	265.71
255.0	266.48	260.0	262.87	265.0	254.43
270.0	241.01	275.0	222.86	280.0	200.59
285.0	175.17	290.0	147.83	295.0	119.98
300.0	93.05	305.0	68.41	310.0	47.41
315.0	31.54	320.0	22.67	325.0	21.26
330.0	23.53	335.0	25.91	340.0	27.32
345.0	27.85	350.0	27.90	355.0	27.85

Standard Pattern  
Calculated at 10.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	27.41	5.0	27.51	10.0	27.64
15.0	27.70	20.0	27.64	25.0	27.51
30.0	27.41	35.0	27.40	40.0	27.44
45.0	27.33	50.0	26.69	55.0	25.17
60.0	22.79	65.0	20.80	70.0	22.76
75.0	31.97	80.0	47.76	85.0	68.36
90.0	92.40	95.0	118.61	100.0	145.69
105.0	172.25	110.0	196.98	115.0	218.69
120.0	236.46	125.0	249.68	130.0	258.13
135.0	261.93	140.0	261.52	145.0	257.56
150.0	250.87	155.0	242.33	160.0	232.80
165.0	223.07	170.0	213.81	175.0	205.57
180.0	198.77	185.0	193.72	190.0	190.61
195.0	189.56	200.0	190.61	205.0	193.72
210.0	198.77	215.0	205.57	220.0	213.81
225.0	223.07	230.0	232.80	235.0	242.33
240.0	250.87	245.0	257.56	250.0	261.52
255.0	261.93	260.0	258.13	265.0	249.68
270.0	236.46	275.0	218.69	280.0	196.98
285.0	172.25	290.0	145.69	295.0	118.61
300.0	92.40	305.0	68.36	310.0	47.76
315.0	31.97	320.0	22.76	325.0	20.80
330.0	22.79	335.0	25.17	340.0	26.69
345.0	27.33	350.0	27.44	355.0	27.40

Standard Pattern  
Calculated at 15.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	26.63	5.0	26.65	10.0	26.70
15.0	26.72	20.0	26.70	25.0	26.65
30.0	26.63	35.0	26.67	40.0	26.67
45.0	26.42	50.0	25.60	55.0	23.94
60.0	21.63	65.0	20.15	70.0	23.03
75.0	32.72	80.0	48.30	85.0	68.23
90.0	91.30	95.0	116.35	100.0	142.17
105.0	167.50	110.0	191.10	115.0	211.90
120.0	229.03	125.0	241.93	130.0	250.38
135.0	254.47	140.0	254.61	145.0	251.38
150.0	245.55	155.0	237.91	160.0	229.28
165.0	220.39	170.0	211.88	175.0	204.27
180.0	197.98	185.0	193.28	190.0	190.39
195.0	189.42	200.0	190.39	205.0	193.28
210.0	197.98	215.0	204.27	220.0	211.88
225.0	220.39	230.0	229.28	235.0	237.91
240.0	245.55	245.0	251.38	250.0	254.61
255.0	254.47	260.0	250.38	265.0	241.93
270.0	229.03	275.0	211.90	280.0	191.10
285.0	167.50	290.0	142.17	295.0	116.35
300.0	91.30	305.0	68.23	310.0	48.30
315.0	32.72	320.0	23.03	325.0	20.15
330.0	21.63	335.0	23.94	340.0	25.60
345.0	26.42	350.0	26.67	355.0	26.67

Standard Pattern  
Calculated at 20.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	25.64	5.0	25.61	10.0	25.61
15.0	25.61	20.0	25.61	25.0	25.61
30.0	25.64	35.0	25.65	40.0	25.54
45.0	25.08	50.0	24.03	55.0	22.25
60.0	20.15	65.0	19.53	70.0	23.60
75.0	33.77	80.0	48.98	85.0	67.98
90.0	89.73	95.0	113.22	100.0	137.37
105.0	161.04	110.0	183.16	115.0	202.73
120.0	218.98	125.0	231.42	130.0	239.82
135.0	244.26	140.0	245.07	145.0	242.77
150.0	238.03	155.0	231.57	160.0	224.11
165.0	216.33	170.0	208.81	175.0	202.04
180.0	196.40	185.0	192.19	190.0	189.59
195.0	188.71	200.0	189.59	205.0	192.19
210.0	196.40	215.0	202.04	220.0	208.81
225.0	216.33	230.0	224.11	235.0	231.57
240.0	238.03	245.0	242.77	250.0	245.07
255.0	244.26	260.0	239.82	265.0	231.42
270.0	218.98	275.0	202.73	280.0	183.16
285.0	161.04	290.0	137.37	295.0	113.22
300.0	89.73	305.0	67.98	310.0	48.98
315.0	33.77	320.0	23.60	325.0	19.53
330.0	20.15	335.0	22.25	340.0	24.03
345.0	25.08	350.0	25.54	355.0	25.65

Standard Pattern  
Calculated at 25.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	24.38	5.0	24.39	10.0	24.38
15.0	24.37	20.0	24.38	25.0	24.39
30.0	24.38	35.0	24.28	40.0	23.96
45.0	23.24	50.0	21.97	55.0	20.18
60.0	18.59	65.0	19.23	70.0	24.60
75.0	35.10	80.0	49.73	85.0	67.53
90.0	87.67	95.0	109.26	100.0	131.39
105.0	153.08	110.0	173.39	115.0	191.46
120.0	206.64	125.0	218.47	130.0	226.75
135.0	231.52	140.0	233.06	145.0	231.79
150.0	228.30	155.0	223.19	160.0	217.09
165.0	210.60	170.0	204.25	175.0	198.48
180.0	193.65	185.0	190.01	190.0	187.76
195.0	187.00	200.0	187.76	205.0	190.01
210.0	193.65	215.0	198.48	220.0	204.25
225.0	210.60	230.0	217.09	235.0	223.19
240.0	228.30	245.0	231.79	250.0	233.06
255.0	231.52	260.0	226.75	265.0	218.47
270.0	206.64	275.0	191.46	280.0	173.39
285.0	153.08	290.0	131.39	295.0	109.26
300.0	87.67	305.0	67.53	310.0	49.73
315.0	35.10	320.0	24.60	325.0	19.23
330.0	18.59	335.0	20.18	340.0	21.97
345.0	23.24	350.0	23.96	355.0	24.28

Standard Pattern  
Calculated at 30.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	22.69	5.0	22.82	10.0	22.87
15.0	22.88	20.0	22.87	25.0	22.82
30.0	22.69	35.0	22.40	40.0	21.84
45.0	20.88	50.0	19.49	55.0	17.97
60.0	17.34	65.0	19.57	70.0	26.08
75.0	36.63	80.0	50.44	85.0	66.80
90.0	85.07	95.0	104.51	100.0	124.37
105.0	143.82	110.0	162.09	115.0	178.47
120.0	192.38	125.0	203.45	130.0	211.50
135.0	216.54	140.0	218.78	145.0	218.56
150.0	216.36	155.0	212.67	160.0	208.03
165.0	202.94	170.0	197.87	175.0	193.20
180.0	189.24	185.0	186.25	190.0	184.39
195.0	183.76	200.0	184.39	205.0	186.25
210.0	189.24	215.0	193.20	220.0	197.87
225.0	202.94	230.0	208.03	235.0	212.67
240.0	216.36	245.0	218.56	250.0	218.78
255.0	216.54	260.0	211.50	265.0	203.45
270.0	192.38	275.0	178.47	280.0	162.09
285.0	143.82	290.0	124.37	295.0	104.51
300.0	85.07	305.0	66.80	310.0	50.44
315.0	36.63	320.0	26.08	325.0	19.57
330.0	17.34	335.0	17.97	340.0	19.49
345.0	20.88	350.0	21.84	355.0	22.40

Standard Pattern  
Calculated at 35.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	20.40	5.0	20.68	10.0	20.82
15.0	20.87	20.0	20.82	25.0	20.68
30.0	20.40	35.0	19.92	40.0	19.16
45.0	18.10	50.0	16.88	55.0	16.08
60.0	16.91	65.0	20.75	70.0	27.99
75.0	38.24	80.0	50.97	85.0	65.69
90.0	81.90	95.0	99.02	100.0	116.44
105.0	133.51	110.0	149.58	115.0	164.10
120.0	176.61	125.0	186.79	130.0	194.47
135.0	199.65	140.0	202.49	145.0	203.24
150.0	202.27	155.0	199.97	160.0	196.78
165.0	193.10	170.0	189.33	175.0	185.79
180.0	182.75	185.0	180.43	190.0	178.98
195.0	178.49	200.0	178.98	205.0	180.43
210.0	182.75	215.0	185.79	220.0	189.33
225.0	193.10	230.0	196.78	235.0	199.97
240.0	202.27	245.0	203.24	250.0	202.49
255.0	199.65	260.0	194.47	265.0	186.79
270.0	176.61	275.0	164.10	280.0	149.58
285.0	133.51	290.0	116.44	295.0	99.02
300.0	81.90	305.0	65.69	310.0	50.97
315.0	38.24	320.0	27.99	325.0	20.75
330.0	16.91	335.0	16.08	340.0	16.88
345.0	18.10	350.0	19.16	355.0	19.92

Standard Pattern  
Calculated at 40.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	17.49	5.0	17.88	10.0	18.10
15.0	18.17	20.0	18.10	25.0	17.88
30.0	17.49	35.0	16.90	40.0	16.13
45.0	15.28	50.0	14.74	55.0	15.23
60.0	17.71	65.0	22.71	70.0	30.16
75.0	39.75	80.0	51.17	85.0	64.10
90.0	78.13	95.0	92.84	100.0	107.75
105.0	122.36	110.0	136.17	115.0	148.76
120.0	159.75	125.0	168.90	130.0	176.07
135.0	181.24	140.0	184.51	145.0	186.06
150.0	186.17	155.0	185.13	160.0	183.28
165.0	180.93	170.0	178.40	175.0	175.94
180.0	173.80	185.0	172.14	190.0	171.09
195.0	170.74	200.0	171.09	205.0	172.14
210.0	173.80	215.0	175.94	220.0	178.40
225.0	180.93	230.0	183.28	235.0	185.13
240.0	186.17	245.0	186.06	250.0	184.51
255.0	181.24	260.0	176.07	265.0	168.90
270.0	159.75	275.0	148.76	280.0	136.17
285.0	122.36	290.0	107.75	295.0	92.84
300.0	78.13	305.0	64.10	310.0	51.17
315.0	39.75	320.0	30.16	325.0	22.71
330.0	17.71	335.0	15.23	340.0	14.74
345.0	15.28	350.0	16.13	355.0	16.90

Standard Pattern  
Calculated at 45.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	14.28	5.0	14.64	10.0	14.86
15.0	14.93	20.0	14.86	25.0	14.64
30.0	14.28	35.0	13.84	40.0	13.43
45.0	13.33	50.0	14.01	55.0	16.01
60.0	19.71	65.0	25.18	70.0	32.31
75.0	40.94	80.0	50.88	85.0	61.90
90.0	73.72	95.0	86.02	100.0	98.44
105.0	110.61	110.0	122.17	115.0	132.79
120.0	142.21	125.0	150.23	130.0	156.74
135.0	161.71	140.0	165.20	145.0	167.33
150.0	168.29	155.0	168.29	160.0	167.58
165.0	166.39	170.0	164.96	175.0	163.48
180.0	162.15	185.0	161.09	190.0	160.42
195.0	160.19	200.0	160.42	205.0	161.09
210.0	162.15	215.0	163.48	220.0	164.96
225.0	166.39	230.0	167.58	235.0	168.29
240.0	168.29	245.0	167.33	250.0	165.20
255.0	161.71	260.0	156.74	265.0	150.23
270.0	142.21	275.0	132.79	280.0	122.17
285.0	110.61	290.0	98.44	295.0	86.02
300.0	73.72	305.0	61.90	310.0	50.88
315.0	40.94	320.0	32.31	325.0	25.18
330.0	19.71	335.0	16.01	340.0	14.01
345.0	13.33	350.0	13.43	355.0	13.84

Standard Pattern  
Calculated at 50.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	11.84	5.0	11.89	10.0	11.95
15.0	11.98	20.0	11.95	25.0	11.89
30.0	11.84	35.0	11.94	40.0	12.37
45.0	13.40	50.0	15.30	55.0	18.28
60.0	22.41	65.0	27.71	70.0	34.12
75.0	41.56	80.0	49.91	85.0	59.00
90.0	68.64	95.0	78.60	100.0	88.63
105.0	98.46	110.0	107.84	115.0	116.54
120.0	124.37	125.0	131.19	130.0	136.90
135.0	141.48	140.0	144.96	145.0	147.41
150.0	148.94	155.0	149.72	160.0	149.89
165.0	149.62	170.0	149.08	175.0	148.42
180.0	147.76	185.0	147.22	190.0	146.86
195.0	146.73	200.0	146.86	205.0	147.22
210.0	147.76	215.0	148.42	220.0	149.08
225.0	149.62	230.0	149.89	235.0	149.72
240.0	148.94	245.0	147.41	250.0	144.96
255.0	141.48	260.0	136.90	265.0	131.19
270.0	124.37	275.0	116.54	280.0	107.84
285.0	98.46	290.0	88.63	295.0	78.60
300.0	68.64	305.0	59.00	310.0	49.91
315.0	41.56	320.0	34.12	325.0	27.71
330.0	22.41	335.0	18.28	340.0	15.30
345.0	13.40	350.0	12.37	355.0	11.94

Standard Pattern  
Calculated at 55.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	11.83	5.0	11.37	10.0	11.14
15.0	11.07	20.0	11.14	25.0	11.37
30.0	11.83	35.0	12.61	40.0	13.83
45.0	15.61	50.0	18.05	55.0	21.21
60.0	25.14	65.0	29.83	70.0	35.26
75.0	41.37	80.0	48.08	85.0	55.29
90.0	62.85	95.0	70.62	100.0	78.42
105.0	86.07	110.0	93.41	115.0	100.29
120.0	106.57	125.0	112.14	130.0	116.96
135.0	120.98	140.0	124.23	145.0	126.73
150.0	128.55	155.0	129.79	160.0	130.55
165.0	130.93	170.0	131.04	175.0	130.98
180.0	130.83	185.0	130.68	190.0	130.56
195.0	130.52	200.0	130.56	205.0	130.68
210.0	130.83	215.0	130.98	220.0	131.04
225.0	130.93	230.0	130.55	235.0	129.79
240.0	128.55	245.0	126.73	250.0	124.23
255.0	120.98	260.0	116.96	265.0	112.14
270.0	106.57	275.0	100.29	280.0	93.41
285.0	86.07	290.0	78.42	295.0	70.62
300.0	62.85	305.0	55.29	310.0	48.08
315.0	41.37	320.0	35.26	325.0	29.83
330.0	25.14	335.0	21.21	340.0	18.05
345.0	15.61	350.0	13.83	355.0	12.61

Standard Pattern  
Calculated at 60.0 Degrees Elevation

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	14.37	5.0	13.66	10.0	13.25
15.0	13.11	20.0	13.25	25.0	13.66
30.0	14.37	35.0	15.43	40.0	16.87
45.0	18.74	50.0	21.08	55.0	23.91
60.0	27.24	65.0	31.06	70.0	35.37
75.0	40.11	80.0	45.24	85.0	50.68
90.0	56.33	95.0	62.11	100.0	67.90
105.0	73.59	110.0	79.08	115.0	84.27
120.0	89.08	125.0	93.43	130.0	97.29
135.0	100.63	140.0	103.44	145.0	105.75
150.0	107.59	155.0	109.01	160.0	110.06
165.0	110.80	170.0	111.30	175.0	111.62
180.0	111.81	185.0	111.91	190.0	111.96
195.0	111.97	200.0	111.96	205.0	111.91
210.0	111.81	215.0	111.62	220.0	111.30
225.0	110.80	230.0	110.06	235.0	109.01
240.0	107.59	245.0	105.75	250.0	103.44
255.0	100.63	260.0	97.29	265.0	93.43
270.0	89.08	275.0	84.27	280.0	79.08
285.0	73.59	290.0	67.90	295.0	62.11
300.0	56.33	305.0	50.68	310.0	45.24
315.0	40.11	320.0	35.37	325.0	31.06
330.0	27.24	335.0	23.91	340.0	21.08
345.0	18.74	350.0	16.87	355.0	15.43

## Exhibit 16.5 Night Radiation Limits Report

Night Radiation Limit Report for WVKO PN

Frequency: 1580 kHz

Latitude: 40-03-42 N Longitude: 082-56-41 W

	Ct	St	City	Azimuth (Deg)	Min Theta (Deg)	Max Theta (Deg)	Limit (mV/m @ 1km)
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1:							
	CHUC/A	(310)	CA ON COBOURG	1.0	13.3	13.3	39.6
3:							
	CHUC/A	(295)	CA ON COBOURG	3.5	16.9	16.9	34.9
4:							
	CHUC/A	(290)	CA ON COBOURG	4.3	18.1	18.1	32.9
5:							
	CHUC/A	(285)	CA ON COBOURG	5.2	19.2	19.2	30.8
6:							
	CHUC/A	(280)	CA ON COBOURG	6.1	20.5	20.5	28.3
7:							
	CHUC/A	(275)	CA ON COBOURG	7.1	21.7	21.7	25.8
8:							
	CHUC/A	(325)	CA ON COBOURG	8.5	11.9	11.9	44.2
11:							
	CHUC/A	(330)	CA ON COBOURG	11.0	11.6	11.6	45.4
14:							
	CHUC/A	(335)	CA ON COBOURG	13.5	11.4	11.4	46.4
16:							
	CHUC/A	(340)	CA ON COBOURG	15.9	11.1	11.1	47.4
18:							
	CHUC/A	(345)	CA ON COBOURG	18.1	10.9	10.9	48.3
20:							
	CHUC/A	(350)	CA ON COBOURG	20.3	10.7	10.7	49.3
22:							
	CHUC/A	(355)	CA ON COBOURG	22.2	10.5	10.5	50.4
24:							
	CHUC/A	(0)	CA ON COBOURG	24.1	10.3	10.3	51.7
26:							
	CHUC/A	(5)	CA ON COBOURG	25.9	10.1	10.1	53.1
28:							
	CHUC/A	(10)	CA ON COBOURG	27.6	9.8	9.8	54.7
29:							
	CHUC/A	(15)	CA ON COBOURG	29.4	9.6	9.6	56.4
31:							
	CHUC/A	(20)	CA ON COBOURG	31.1	9.3	9.3	58.2
33:							
	CHUC/A	(25)	CA ON COBOURG	33.0	9.0	9.0	60.3
34:							
	CHUC/A	(270)	CA ON COBOURG	34.0	18.7	18.7	28.9
35:							
	CHUC/A	(255)	CA ON COBOURG	35.2	19.6	19.6	27.9
36:							
	CHUC/A	(250)	CA ON COBOURG	35.8	19.8	19.8	27.6

37:	CHUC/A (245)	CA ON COBOURG	36.9	19.8	19.8	27.7
38:	CHUC/A (240)	CA ON COBOURG	38.1	19.6	19.6	27.9
39:	CHUC/A (235)	CA ON COBOURG	39.1	19.3	19.3	28.3
40:	CHUC/A (230)	CA ON COBOURG	39.9	18.8	18.8	28.8
41:	CHUC/A (215)	CA ON COBOURG	41.3	18.3	18.3	29.5
42:	CHUC/A (210)	CA ON COBOURG	41.6	18.2	18.2	54.7
43:	CHUC/A (140)	CA ON COBOURG	42.9	17.0	17.0	31.5
44:	CHUC/A (155)	CA ON COBOURG	44.3	17.3	17.3	86.1
45:	CHUC/A (145)	CA ON COBOURG	44.7	17.1	17.1	31.2
46:	CHUC/A (90)	CA ON COBOURG	46.3	15.0	15.0	35.5
	NEW	US PA KEARSARGE	46.4	23.3	35.8	2327.2
	NEW	US PA KEARSARGE	46.4	23.3	35.8	2327.2
	NEW	US PA KEARSARGE	46.4	23.3	35.8	2327.2
47:	CHUC/A (120)	CA ON COBOURG	47.0	16.3	16.3	44.8
	NEW	US PA KEARSARGE	46.5	23.2	35.6	2352.4
48:	CHUC/A (100)	CA ON COBOURG	48.5	15.0	15.0	35.5
	WAKR	US OH AKRON	48.3	41.3	55.5	112.7
	WASB	US NY BROCKPORT	48.3	13.7	22.6	4664.9
49:	CHUC/A (110)	CA ON COBOURG	48.6	15.6	15.6	34.2
50:	CHUC/A (65)	CA ON COBOURG	49.9	8.3	8.3	66.3
52:	CHUC/A (70)	CA ON COBOURG	52.0	8.6	8.6	63.8
55:	NEW	US VT WINOOSKI	55.3	6.6	12.1	6616.8
56:	NEW	US VT ESSEX JUNCTION	55.5	6.5	12.1	6701.6
57:	WAUB	US NY AUBURN	57.0	11.8	19.8	4045.7
59:	WFLR	US NY DUNDEE	59.0	12.9	21.5	3534.4
64:	WVTL	US NY AMSTERDAM	63.6	8.5	15.0	6134.9
69:	WSMN	US NH NASHUA	68.9	5.9	11.2	2457.2
72:	NEW	US MA CORDAVILLE	71.8	6.1	11.4	104.1
75:	WARV	US RI WARWICK	75.4	6.1	11.5	1616.0
	WPEP	US MA TAUNTON	74.7	5.8	10.9	9567.8
77:	WPGM	US PA DANVILLE	77.1	13.6	22.5	2722.2
80:	WFTU	US NY RIVERHEAD	80.5	7.4	13.3	5767.0

81:	WLIM	US NY PATCHOGUE	81.2	7.8	13.9	123.9
85:	WISP	US PA DOYLESTOWN	84.9	10.8	18.4	3334.6
89:	WPWA	US PA CHESTER	89.4	11.3	19.1	1735.3
91:	WHGT	US PA CHAMBERSBURG	90.5	16.7	26.9	1591.3
95:	WNST	US MD TOWSON	95.4	13.4	22.2	2687.2
98:	WFBR	US MD GLEN BURNIE	98.3	13.4	22.2	2145.2
102:	WPGC	US MD MORNINGSIDE	102.4	13.8	22.8	161.0
103:	WKHZ	US MD OCEAN CITY	102.8	10.1	17.3	3989.2
121:	NEW	US VA POWHATAN	121.2	14.4	23.7	2319.1
	NEW	US VA ETTRICK	121.5	12.9	21.4	2542.4
122:	UNK-B (90)	AC JUDGE BAY	122.3	0.0	0.0	3152.7
123:	UNK-B (105)	AC JUDGE BAY	122.9	0.0	0.0	3970.3
124:	UNK-B (40)	AC JUDGE BAY	123.9	0.0	0.0	1945.3
	UNK-A	BR CEARA MIRIM	124.7	0.0	0.0	71725.4
125:	UNK-B (35)	AC JUDGE BAY	124.7	0.0	0.0	1876.7
126:	UNK-B (30)	AC JUDGE BAY	126.2	0.0	0.0	1839.5
127:	UNK-B (25)	AC JUDGE BAY	127.0	0.0	0.0	1798.0
	UNK-A	BR CANINDE	127.2	0.0	0.0	62085.6
	UNK-A	BR S J DO EGITO	127.6	0.0	0.0	66218.5
	ZYK-626-A	BR JAGUARIBE	127.6	0.0	0.0	71398.5
128:	UNK-B (20)	AC JUDGE BAY	128.0	0.0	0.0	1772.9
129:	NEW	US WV ELIZABETH	129.4	39.4	53.7	776.1
	UNK-B (15)	AC JUDGE BAY	129.3	0.0	0.0	1771.5
130:	UNK-B (130)	AC JUDGE BAY	129.7	0.0	0.0	4798.0
131:	UNK-B (10)	AC JUDGE BAY	130.9	0.0	0.0	1811.1
132:	UNK-B (345)	AC JUDGE BAY	132.0	0.0	0.0	1537.0
	ZYI-898-A	BR FLORIANO 1	132.4	0.0	0.0	65464.6
	ZYH-464-A	BR MURITIBA	132.4	0.0	0.0	74061.0
133:	UNK-B (335)	AC JUDGE BAY	133.4	0.0	0.0	1465.3
	UNK-A	BR TEOLANDIA	133.5	0.0	0.0	61160.3
134:	UNK-B (330)	AC JUDGE BAY	134.3	0.0	0.0	1452.7
	NEW	US NC WINTERVILLE	134.3	10.1	17.3	3402.0
	NEW	US NC WINTERVILLE	134.3	10.1	17.3	3403.7
	ZYH515-A	BR BARRA DO MEN	134.7	0.0	0.0	59121.4
	ZYH-486-A	BR CANAVIEIRAS	134.3	0.0	0.0	82766.1

135:							
	UNK-B (325)	AC	JUDGE BAY	135.2	0.0	0.0	1455.9
136:							
	UNK-B (320)	AC	JUDGE BAY	136.0	0.0	0.0	1475.3
137:							
	UNK-B (315)	AC	JUDGE BAY	136.8	0.0	0.0	1511.7
	ZYL-329-A	BR	ESPINOSA	137.2	0.0	0.0	74566.5
138:							
	UNK-B (305)	AC	JUDGE BAY	137.6	0.0	0.0	1653.5
139:							
	UNK-B (290)	AC	JUDGE BAY	138.6	0.0	0.0	1771.5
	UNK-A	BR	AFONSO CLAUD	138.7	0.0	0.0	76765.5
140:							
	UNK-B (285)	AC	JUDGE BAY	140.2	0.0	0.0	1712.9
	UNK-A	BR	DIVINO	139.9	0.0	0.0	70005.2
	ZYJ-487-A	BR	CONC DE MACA	140.4	0.0	0.0	80500.9
141:							
	UNK-B (280)	AC	JUDGE BAY	141.5	0.0	0.0	1700.2
	WYTI	US VA	ROCKY MOUNT	141.3	17.4	27.9	1909.1
	UNK-A	BR	TERESOPOLIS	141.6	0.0	0.0	66875.9
	ZYL-290-A	BR	SANTOS DUMON	141.5	0.0	0.0	72852.8
142:							
	WEKO	US PR	MOROVIS	141.9	0.0	0.0	2130.0
	UNK-B (225)	AC	JUDGE BAY	141.9	0.0	0.0	2258.2
	WXRF	US PR	GUAYAMA	141.8	0.0	0.0	10416.2
	ZYL210-A	BR	ITAPECERICA	142.2	0.0	0.0	71333.7
143:							
	UNK-B (275)	AC	JUDGE BAY	142.5	0.0	0.0	1715.5
144:							
	UNK-B (250)	AC	JUDGE BAY	144.4	0.0	0.0	1986.0
	UNK-A	BR	GUARANESIA	144.2	0.0	0.0	68556.2
145:							
	UNK-B (265)	AC	JUDGE BAY	145.0	0.0	0.0	1769.6
	ZYK-504-A	BR	AMPARO	144.9	0.0	0.0	73136.0
146:							
	UNK-B (260)	AC	JUDGE BAY	146.0	0.0	0.0	1821.1
	UNK-A	BR	CONCHAS	146.1	0.0	0.0	66249.2
	UNK-A	BR	IBIUNA	145.8	0.0	0.0	74951.5
147:							
	WNCA	US NC	SILER CITY	146.7	12.9	21.5	2579.4
	WNCA	US NC	SILER CITY	146.7	12.9	21.5	2579.4
	HIWJ-C	DR	SAMANA	146.8	0.0	0.0	21854.5
148:							
	UNK-A	BR	TUPA	147.8	0.0	0.0	73244.3
	UNK-A	BR	ITAPORANGA 1	147.7	0.0	0.0	79092.1
149:							
	ZYJ818-A	BR	POMERODE	148.9	0.0	0.0	72443.3
	UNK-A	BR	CAMBE	149.1	0.0	0.0	73229.0
150:							
	UNK-A	BR	IVINHEMA	149.8	0.0	0.0	73267.0
151:							
	UNK-A	BR	IPUMIRIM	151.5	0.0	0.0	50860.2
	UNK-A	BR	PALMAR DO SU	151.5	0.0	0.0	58491.7
	UNK-A	BR	SAO JOAO	151.5	0.0	0.0	61753.5
152:							
	ZYK-807-A	BR	ENCANTADO	152.2	0.0	0.0	58779.3
153:							

UNK-A	BR	P DAS MISSOE	152.9	0.0	0.0	51694.8
ZYI-415-A	BR	JARDIM	152.7	0.0	0.0	82912.1
154:						
ZYK-339-A	BR	ARROIO GRAND	154.4	0.0	0.0	75025.7
155:						
LRH373-A	AR	GBDOR VIRASO	155.2	0.0	0.0	51248.4
156:						
NEW	US SC	GEORGETOWN	155.9	8.3	14.7	242.5
WWGS	US SC	GEORGETOWN	156.2	8.3	14.7	243.4
CV158-A	UY	EL PORORO	156.6	0.0	0.0	56806.1
CW158-A	UY	TRANQUERAS	156.2	0.0	0.0	59326.6
157:						
LRH372-A	AR	MERCEDES	157.4	0.0	0.0	54340.7
CW54-A	UY	MINAS	157.0	0.0	0.0	54636.2
159:						
LT27-A	AR	VILLAGUAY	159.1	0.0	0.0	55774.9
CX158-A	UY	DOLORES	159.0	0.0	0.0	57460.0
LRH366-A	AR	VILLA BERTHE	158.8	0.0	0.0	67139.9
161:						
WTLK	US NC	TAYLORSVILLE	160.7	15.4	25.1	2249.0
HJNN-A	CO	V ROSARIO 1	160.9	0.0	0.0	47201.4
LT36-A	AR	CHACABUCO	161.2	0.0	0.0	78089.5
162:						
LRJ366-A	AR	LAS VARILLAS	162.3	0.0	0.0	64531.3
163:						
HJLC-A	CO	EL BANCO	163.1	0.0	0.0	42158.5
164:						
HJQZ-A	CO	BARRANQUILLA	163.8	0.0	0.0	37664.7
165:						
HJKF-A	CO	ZIPAQUIRA	164.7	0.0	0.0	53883.1
166:						
CMHQ-C	CU	SANTA CRUZ S	166.2	0.0	0.0	5142.2
167:						
HJOE-A	CO	ROVIRA	167.0	0.0	0.0	56683.8
169:						
CA 158-A	CI	HUASCO	169.0	0.0	0.0	79999.1
170:						
WSRF	US FL	FORT LAUDERDALE	169.9	1.7	5.1	366.6
WSRF	US FL	FORT LAUDERDALE	170.0	1.7	5.1	366.7
172:						
CD 158A-A	CI	COLLIPULLI	171.6	0.0	0.0	76615.2
CD 158-A	CI	CANETE	172.3	0.0	0.0	77656.5
173:						
HCTI6-A	EC	QUERO	173.5	0.0	0.0	49107.5
HCLF1-A	EC	ECOS DE OREL	173.3	0.0	0.0	55205.0
174:						
WKTP	US TN	JONESBOROUGH	174.2	18.1	28.9	550.3
WVOJ	US FL	ORANGE PARK	174.2	4.9	9.7	9724.4
WVOJ	US FL	ORANGE PARK	174.1	4.9	9.6	9855.5
HCAE5-A	EC	GIRON	174.5	0.0	0.0	35280.5
175:						
HCAB3-A	EC	CATACOCOA	175.3	0.0	0.0	46821.5
HCUA4-A	EC	ESMERALDAS	174.9	0.0	0.0	51090.7
HCCP2-A	EC	CANAL DEL PU	175.2	0.0	0.0	59051.0
HCHA2-A	EC	ELOY ALFARO	175.4	0.0	0.0	65328.2
176:						
WCCF	US FL	PUNTA GORDA	176.5	2.3	5.9	462.3

179:	WRXB	US FL ST. PETERSBURG	178.9	2.9	6.8	6417.8
181:	WSWV	US VA PENNINGTON GAP	181.0	20.6	32.2	1694.5
185:	TIMS-A	CS GUANACASTE	185.0	0.0	0.0	5460.3
186:	YNR11-A (105)	NU RELOJ NACION	186.5	0.0	0.0	1782.9
187:	WALG	US GA ALBANY	187.0	6.5	12.1	977.0
	YNR11-A (5)	NU RELOJ NACION	187.3	0.0	0.0	1728.7
188:	YNR11-A (345)	NU RELOJ NACION	187.6	0.0	0.0	1731.8
193:	WEAM	US GA COLUMBUS	193.1	7.5	13.5	200.4
194:	TGPY-D	GT PAYAKI	194.2	0.0	0.0	7724.4
198:	NEW	US AL OPP	197.9	5.8	10.9	5663.2
201:	XE/A	MX CS TAPACHULA	200.6	0.0	0.0	6577.4
	XEFRT1/A	MX CS COMITAN	201.2	0.0	0.0	8100.3
208:	XEUU/A	MX VC NANCHITAL	207.5	0.0	0.0	7041.7
212:	XETBV/A	MX VC TIERRA BLANCA	212.0	0.0	0.0	7039.1
217:	WVNA	US AL TUSCUMBIA	216.8	9.6	16.7	1344.1
	XELI/A	MX GR CHILPANCINGO	217.2	0.0	0.0	9084.2
218:	XE0042/O	MX HG TULANCINGO	218.0	0.0	0.0	8238.6
220:	WZRK	US MS JACKSON	219.6	5.2	10.1	3592.8
	XEVAB1/A	MX MX VALLE DE BRAVO	220.3	0.0	0.0	9295.2
223:	XEAF1/O	MX GT APASEO EL GRAND	223.1	0.0	0.0	9008.9
	XEAF/A	MX GT OJO SECO	223.0	0.0	0.0	9092.4
224:	KXZZ	US LA LAKE CHARLES	223.6	2.5	6.2	766.9
225:	NEW	US TN MIDDLETON	225.2	9.0	15.7	290.7
	XEQL/A	MX MC ZAMORA	225.0	0.0	0.0	11369.7
228:	KIRT	US TX MISSION	227.6	0.0	1.8	2468.0
229:	KMIC	US TX HOUSTON	228.8	1.5	4.8	5048.5
	KDAE	US TX SINTON	229.3	0.1	3.0	8930.8
231:	XE0050/A	MX CI SALTILLO	231.3	0.0	0.0	10540.0
233:	WWSZ	US IN NEW ALBANY	232.6	24.1	36.8	1581.5
234:	KWED	US TX SEGUIN	234.2	0.5	3.5	2132.0
237:	XEST/A	MX SI MAZATLAN	236.6	0.0	0.0	26515.2
238:	KQRL	US TX WACO	237.6	1.6	5.0	1743.3

NEW	US TX KERRVILLE	237.9	0.3	3.3	8376.4
NEW	US TX KERRVILLE	237.9	0.3	3.3	8387.0
NEW	US TX KERRVILLE	237.9	0.3	3.3	8387.0
245:					
KGAF	US TX GAINESVILLE	244.8	2.4	6.1	1200.8
247:					
NEW	US TX SWEETWATER	247.1	0.6	3.7	2665.5
250:					
KBCV	US MO HOLLISTER	250.1	6.2	11.6	14689.4
KBCV	US MO HOLLISTER	250.1	6.2	11.6	14689.4
253:					
XEDM/O	MX SO HERMOSILLO	253.2	0.0	0.0	2535.5
XEDM/A	MX SO HERMOSILLO	253.0	0.0	0.0	2570.7
KDAV	US TX LUBBOCK	252.4	0.4	3.4	5279.1
254:					
KELP	US TX EL PASO	253.6	0.0	0.8	12743.8
KELP	US TX EL PASO	253.6	0.0	0.8	12743.8
256:					
NEW	US NM ROSWELL	255.5	0.0	2.0	4151.4
258:					
NEW	US TX PANHANDLE	257.9	1.0	4.2	1833.2
NEW	US TX LAKE TANGLEWOOD	257.6	0.8	3.9	2033.1
259:					
NEW	US TX FRITCH	259.2	1.0	4.1	73495.6
263:					
WNTS	US IN BEECH GROVE	263.4	27.4	40.8	676.7
KMIK	US AZ TEMPE	263.2	0.0	0.0	10486.8
264:					
NEW	US NM SANTA FE	263.7	0.0	1.9	3387.5
NEW	US NM SANTA FE	263.8	0.0	1.9	84632.2
267:					
KVGB	US KS GREAT BEND	267.0	2.9	6.7	2588.9
268:					
KPRO	US CA RIVERSIDE	268.4	0.0	0.0	71077.2
269:					
KBLA	US CA SANTA MONICA	269.3	0.0	0.0	8323.2
270:					
KKZZ	US CA VENTURA	270.2	0.0	0.0	41455.6
271:					
NEW	US NV PARADISE	271.2	0.0	0.0	39385.2
NEW	US NV PARADISE	271.2	0.0	0.0	39389.4
NEW	US NV SPRING VALLEY	271.4	0.0	0.0	39821.8
NEW	US NV SANDY VALLEY	271.1	0.0	0.0	42159.9
273:					
NEW	US UT WASHINGTON	272.8	0.0	0.0	6757.9
NEW	US CA SAN LUIS OBISPO	273.0	0.0	0.0	24368.6
NEW	US CA SAN LUIS OBISPO	273.0	0.0	0.0	24426.5
274:					
NEW	US UT MOAB	274.4	0.0	0.8	19696.9
275:					
WPTW	US OH PIQUA	274.9	51.6	64.4	727.3
NEW	US HI HILO	274.7	0.0	0.0	30397.3
276:					
WILO	US IN FRANKFORT	275.7	24.8	37.7	1478.6
KTGE	US CA SALINAS	276.1	0.0	0.0	73719.7
277:					
KUAU	US HI HAIKU	276.4	0.0	0.0	46924.5

KUAU	US HI HAIKU	276.4	0.0	0.0	46962.3
278:					
KLIV	US CA SAN JOSE	277.5	0.0	0.0	23905.1
279:					
NEW	US UT SPANISH FORK	279.5	0.0	0.1	3389.3
NEW	US UT PAYSON	279.0	0.0	0.1	3480.0
KCVR	US CA LODI	278.7	0.0	0.0	60916.2
280:					
NEW	US UT PLEASANT GROVE	280.1	0.0	0.1	3348.5
NEW	US UT SPRINGVILLE	279.8	0.0	0.1	3364.5
281:					
NEW	US UT TOOEELE	280.8	0.0	0.0	3453.7
NEW	US UT GRANTSVILLE	280.9	0.0	0.0	3493.1
NEW	US WY CHEYENNE	280.6	0.3	3.2	23419.9
NEW	US WY CHEYENNE	280.9	0.3	3.3	23553.8
NEW	US WY CHEYENNE	280.9	0.3	3.3	23553.8
283:					
NEW	US CA RED BLUFF	283.2	0.0	0.0	7922.9
284:					
NEW	US CA ANDERSON	283.9	0.0	0.0	8034.2
NEW	US CA REDDING	283.9	0.0	0.0	8112.4
NEW	US CA SHASTA LAKE CIT	284.2	0.0	0.0	8124.0
NEW	US UT RICHMOND	284.3	0.0	0.2	45720.5
285:					
NEW	US CA MT. SHASTA CITY	285.4	0.0	0.0	8403.2
NEW	US CA CUTTEN	284.9	0.0	0.0	9176.2
287:					
WKKD	US IL SILVIS	287.0	11.1	18.8	198.3
WKKD	US IL SILVIS	287.3	11.0	18.7	198.3
KWBG	US IA BOONE	286.9	6.6	12.1	3602.4
288:					
NEW	US OR CENTRAL POINT	287.7	0.0	0.0	10255.4
NEW	US OR HARBECK-FRUITDA	287.9	0.0	0.0	59606.5
289:					
NEW	US ID FISCHER	289.1	0.0	0.0	5465.9
NEW	US ID KUNA	288.9	0.0	0.0	40776.7
NEW	US ID BOISE	289.2	0.0	0.0	40915.1
NEW	US ID GARDEN CITY	289.2	0.0	0.0	41233.0
NEW	US ID STAR	289.5	0.0	0.0	42831.0
292:					
KGAL	US OR LEBANON	292.1	0.0	0.0	7765.0
294:					
KMBD	US OR TILLAMOOK	294.0	0.0	0.0	39607.8
295:					
WKKD	US IL AURORA	294.7	15.4	25.1	168.1
WONX	US IL CAROL STREAM	295.1	15.4	25.0	1729.5
WONX	US IL CAROL STREAM	294.7	15.4	25.1	1731.5
WBGX	US IL HARVEY	294.8	17.4	27.9	2119.8
WBGX	US IL HARVEY	294.8	17.4	27.9	2119.8
WBGX	US IL HARVEY	294.8	17.4	27.9	2119.8
NEW	US WA COLLEGE PLACE	295.0	0.0	0.0	9380.9
296:					
WFRL	US IL FREEPORT	296.4	11.9	20.0	3511.2
297:					
NEW	US MT LOLO	297.1	0.0	0.0	7423.3
298:					
WPVL	US WI PLATTEVILLE	297.9	10.1	17.4	2519.1

NEW	US WA VERADALE	298.5	0.0	0.0	12153.1
KLFE	US WA SEATTLE	298.3	0.0	0.0	32177.0
299:					
NEW	US WA MEADE	298.9	0.0	0.0	12923.2
NEW	US WA MILLWOOD	298.6	0.0	0.0	48242.6
300:					
WONX	US IL EVANSTON	300.2	16.5	26.7	1863.3
NEW	US ID OLDTOWN	299.9	0.0	0.0	98307.0
305:					
WDND	US IN SOUTH BEND	304.8	23.1	35.6	87.4
WKBH	US WI HOLMEN	304.7	8.2	14.6	6419.0
306:					
KYCR	US MN GOLDEN VALLEY	306.0	5.8	11.0	8285.1
312:					
KCNN	US MN EAST GRAND FORK	312.4	2.6	6.4	7777.7
313:					
NEW/A	CA AB EDMONTON	313.4	0.0	0.0	1319.8
NEW/A	CA AB EDMONTON	313.4	0.0	0.0	1320.2
314:					
KAKK	US MN WALKER	313.7	4.0	8.3	10609.6
KAKK	US MN WALKER	313.7	4.0	8.4	10613.0
317:					
WSCO	US WI APPLETON	317.5	11.1	18.9	4028.9
318:					
WSCO	US WI APPLETON	318.0	11.1	18.8	4033.1
WSCO	US WI APPLETON	318.0	11.1	18.8	4033.1
320:					
WTVB	US MI COLDWATER	320.6	27.6	41.1	1150.2
321:					
WLKD	US WI MINOCQUA	321.5	7.8	13.9	5940.9
WTRW	US WI DENMARK	321.5	11.7	19.7	6053.2
325:					
WFUR	US MI GRAND RAPIDS	325.4	19.1	30.3	1774.2
333:					
NEW	US MI BIG RAPIDS	333.3	16.6	26.8	4078.5
339:					
NEW	US MI ACME	339.0	13.1	21.7	4771.2
357:					
CHUC/A (300)	CA ON COBOURG	357.0	14.9	14.9	35.8
359:					
CHUC/A (305)	CA ON COBOURG	358.8	14.0	14.0	37.7