



## **Comprehensive Engineering Statement**

**Western New Life, Inc.**

9/4/2020

The applicant proposes a minor change application to move the transmitter site and antenna of WQHA-TV, Aguada, Puerto Rico, File No: 0000065599, Facility ID No: 3255.

Licensed Geographic Coordinates: N. Lat. 18-18-41.8, W. Long. 67-11-24.6 (NAD 83)

Proposed New Coordinates: N. Lat. 18-13-56.5, W. Long. 66-45-42 (NAD 83)

Channel number: 25, virtual 50

Proposed Antenna COR, 946.1 m AMSL, HAAT: 455.3 m (36 radials, FCC 3 second terrain data)

Elevation at the site, 908 m

Antenna height C.O.R. above ground, 38.1 m

Tower height above ground, 45.7 m, (to be installed at the common mountain tower site.)

Antenna Type, Jampro - JA-SS-16 Wide-Cardioid

ERP: 21 kW circularly polarized

Page #2 of this statement is coverage map showing the 46.85 dBu City and 39.85 N.L. contours. As shown on the map, the principal city of Aguada is fully covered by the city grade contour.

Page #3 is a comparative of the old vs the new NL coverage. Based on an examination of the contours, this proposal will increase the WQHA-TV NL coverage by 2,135,691 people with no coverage lost. Land area coverage increases by 3,547.7 square kilometers.

Page #4 is distance to contour and depression angle calculations for the 36, evenly spaced, radials.

Page #5 through Page #7 is the antenna exhibit, showing horizontal and vertical field values of the proposed directional antenna.

Pages #8 through #14 is the OET-69 study using the TVStudy program. This study shows that the largest interference caused under the instant proposal is 0.39 percent. Therefore, this figure is below the maximum, under the rules, of 0.5 percent.

Page #15 is map showing the applicant's existing N.L. contour along with six of its competitors that share the Puerto Rican island market.

Page #16 is an exhibit stating the qualifications of the preparer.

Protection of Environment: Using the OET-65 RF power density calculation procedure we find that at head height there is a power density of 21.5  $\mu\text{W}/\text{cm}^2$ . This is 1.2 percent of the maximum allowed for 536 MHz of the controlled maximum of 1,796.7  $\mu\text{W}/\text{cm}^2$ . The proposed tower, less than 200 feet in height, is located a mountainous wilderness area and will be sited among other towers at the common transmitter site. The applicant has an agreement with the other tower operators to reduce power or terminate transmission to protect the public and workers.

This proposal requires a waiver of the current freeze on minor change applications.

## Proposed 39.85 dBu NL and 46.85 City Contours

**WQHA-D**

0000065599

Latitude: 18-13-56.50 N

Longitude: 066-45-42 W

ERP: 21.00 kW

Channel: 25

Frequency: 539.0 MHz

AMSL Height: 946.1 m

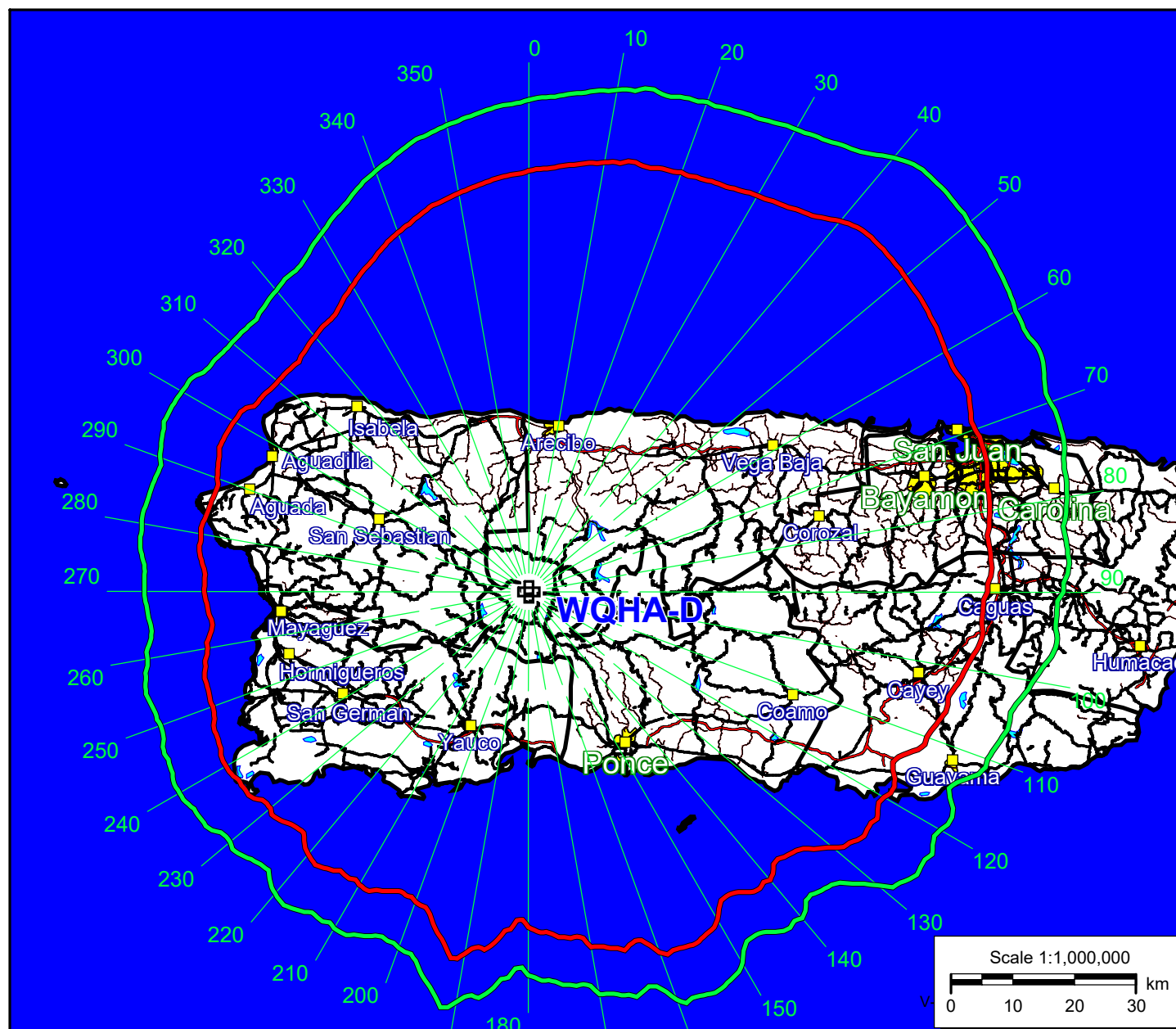
Elevation: 908 m

Horiz. Pattern: Directional

Vert. Pattern: Yes

Elec Tilt: 0.75

**Doug Vernier**  
 1600 Picturesque Dr.  
 Cedar Falls, Iowa 50613  
 Telecommunication Consultants



N. Lat. = 181356.5 W. Lng. = 664542.0  
 HAAT and Distance to Contour,  
 FCC OET,TV 3.2 - 16.1, 130 pts - FCC 30 Meter  
 Distance to Contour, with Depression Angle Calculation

Azi.	AV EL	HAAT	ERP kW	dBk	Field	DAng	VFld	D-kW	%Max	D-dBk	69.85-F9
000	361.2	584.9	6.8229	8.34	0.570	0.670	0.968	6.3932	96.8	8.34	35.07
010	352.7	593.4	9.2867	9.68	0.665	0.675	0.968	8.7019	96.8	9.68	37.10
020	350.0	596.1	11.9705	10.78	0.755	0.676	0.968	11.2167	96.8	10.78	38.69
030	345.7	600.4	14.9945	11.76	0.845	0.679	0.968	14.0502	96.8	11.76	40.12
040	241.0	705.1	17.9681	12.55	0.925	0.736	0.968	16.8366	96.8	12.55	42.77
050	225.4	720.7	19.9631	13.00	0.975	0.744	0.968	18.7059	96.8	13.00	43.66
060	297.8	648.3	20.7905	13.18	0.995	0.705	0.968	19.4812	96.8	13.18	42.78
070	328.5	617.6	20.3747	13.09	0.985	0.688	0.968	19.0916	96.8	13.09	42.22
080	346.9	599.2	19.1525	12.82	0.955	0.678	0.968	17.9464	96.8	12.82	41.60
090	377.1	569.0	18.1629	12.59	0.930	0.661	0.968	17.0191	96.8	12.59	40.87
100	436.9	509.2	17.3901	12.40	0.910	0.625	0.968	16.2949	96.8	12.40	39.23
110	517.2	428.9	17.0100	12.31	0.900	0.574	0.968	15.9388	96.8	12.31	36.68
120	554.3	391.8	17.1995	12.36	0.905	0.548	0.968	16.1164	96.8	12.36	35.74
130	599.8	346.3	17.5817	12.45	0.915	0.515	0.968	16.4745	96.8	12.45	34.34
140	664.1	282.0	18.3587	12.64	0.935	0.465	0.968	17.2026	96.8	12.64	32.23
150	659.4	286.7	19.5557	12.91	0.965	0.469	0.968	18.3242	96.8	12.91	32.78
160	655.0	291.1	20.5821	13.13	0.990	0.473	0.968	19.2859	96.8	13.13	33.24
170	709.5	236.6	20.5821	13.13	0.990	0.426	0.968	19.2859	96.8	13.13	30.81
180	770.9	175.2	18.9525	12.78	0.950	0.367	0.968	17.7590	96.8	12.78	27.07
190	676.4	269.7	16.4477	12.16	0.885	0.455	0.968	15.4119	96.8	12.16	31.11
200	756.8	189.3	13.6085	11.34	0.805	0.381	0.968	12.7515	96.8	11.34	26.13
210	717.5	228.6	10.7357	10.31	0.715	0.419	0.968	10.0596	96.8	10.31	26.95
220	677.3	268.8	8.0724	9.07	0.620	0.454	0.968	7.5640	96.8	9.07	27.24
230	664.9	281.2	5.7881	7.63	0.525	0.465	0.968	5.4236	96.8	7.63	25.98
240	590.0	356.1	3.7931	5.79	0.425	0.523	0.968	3.5542	96.8	5.79	25.87
250	560.8	385.3	2.0837	3.19	0.315	0.544	0.968	1.9525	96.8	3.19	23.56
260	491.1	455.0	1.0631	0.27	0.225	0.591	0.968	0.9962	96.8	0.27	22.06
270	437.2	508.9	0.7581	-1.20	0.190	0.625	0.968	0.7104	96.8	-1.20	21.66
280	433.7	512.4	0.9261	-0.33	0.210	0.627	0.968	0.8678	96.8	-0.33	22.66
290	494.9	451.2	1.2605	1.01	0.245	0.588	0.968	1.1811	96.8	1.01	22.78
300	433.7	512.4	1.1597	0.64	0.235	0.627	0.968	1.0867	96.8	0.64	23.74
310	427.8	518.3	0.7985	-0.98	0.195	0.631	0.968	0.7482	96.8	-0.98	22.06
320	394.8	551.3	0.7985	-0.98	0.195	0.650	0.968	0.7482	96.8	-0.98	22.52
330	393.9	552.2	1.3655	1.35	0.255	0.651	0.968	1.2795	96.8	1.35	25.19
340	366.0	580.1	2.6465	4.23	0.355	0.667	0.968	2.4799	96.8	4.23	29.20
350	358.1	588.0	4.5407	6.57	0.465	0.672	0.968	4.2548	96.8	6.57	32.57

Ave El= 490.78 M HAAT= 455.32 M AMSL= 946.1 M

## Coverage Comparison of Noise Limited Contours (39.55 dBu)

**WQHA-D New**

0000065599

Latitude: 18-13-56.50 N

Longitude: 066-45-42 W

ERP: 21.00 kW

Channel: 25

Frequency: 539.0 MHz

AMSL Height: 946.1 m

Elevation: 908 m

Horiz. Pattern: Directional

Elec Tilt: 0.75

**WQHA-D**

0000065599

Latitude: 18-18-41.80 N

Longitude: 067-11-24.60 W

ERP: 26.90 kW

Channel: 25

Frequency: 539.0 MHz

AMSL Height: 376.0 m

Elevation: 344.0 m

Horiz. Pattern: Directional

Vert. Pattern: Yes

Elec Tilt: 0.75

Previous Population: 1,101,046

Previous Land Area: 3,865 Sq km

Proposed Population: 3,236,737

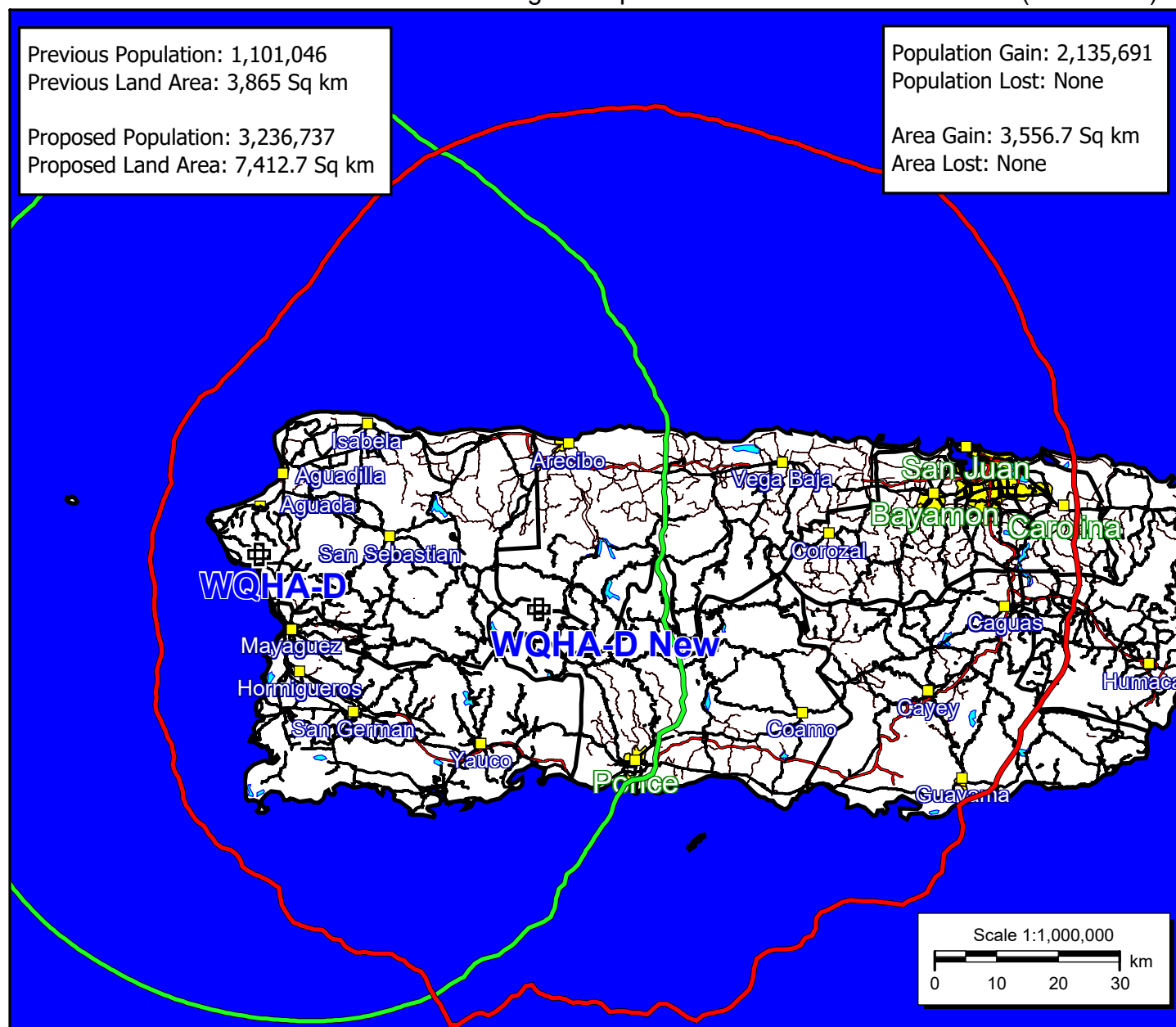
Proposed Land Area: 7,412.7 Sq km

Population Gain: 2,135,691

Population Lost: None

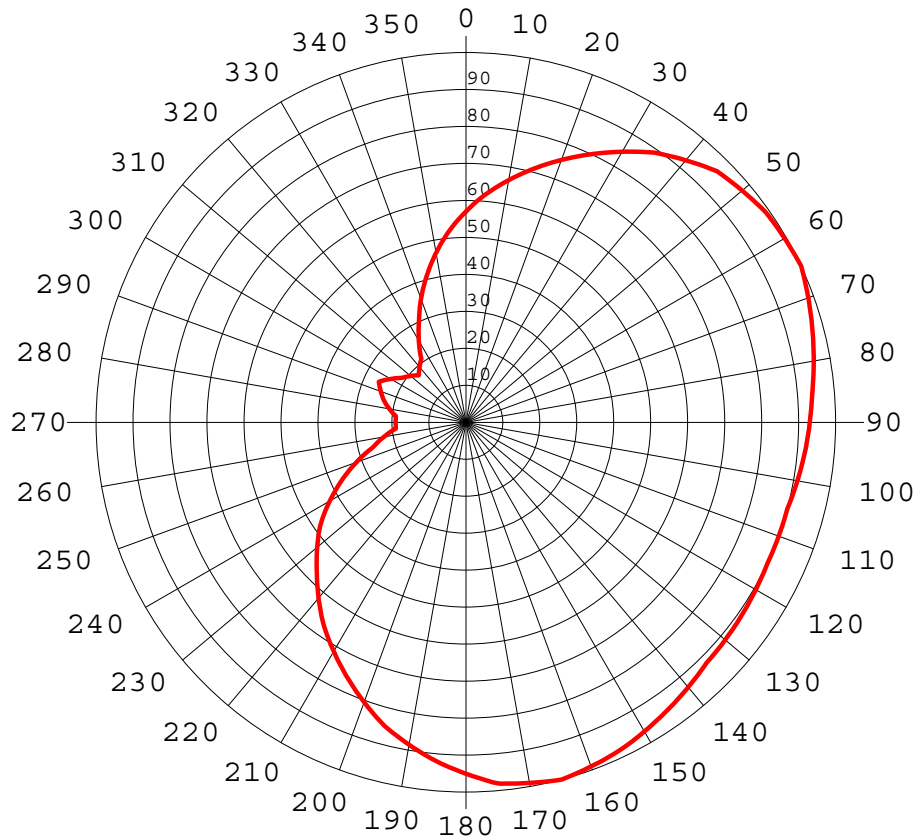
Area Gain: 3,556.7 Sq km

Area Lost: None

**Doug Vernier**1600 Picturesque Dr.  
Cedar Falls, Iowa 50613

Telecommunication Consultants

## JA-SS-16 Wide-Cardioid, no rotation

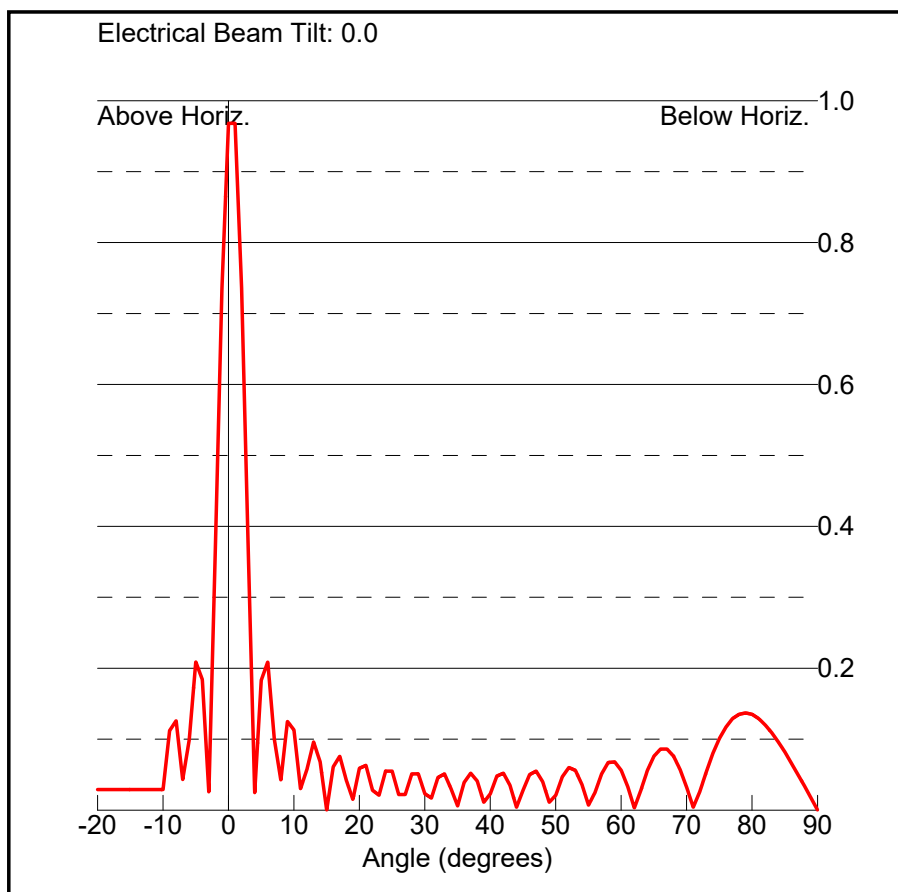


Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
0	0.570	8.34	6.82	-4.88	180	0.950	12.78	18.95	-0.45
10	0.665	9.68	9.29	-3.54	190	0.885	12.16	16.45	-1.06
20	0.755	10.78	11.97	-2.44	200	0.805	11.34	13.61	-1.88
30	0.845	11.76	14.99	-1.46	210	0.715	10.31	10.74	-2.91
40	0.925	12.55	17.97	-0.68	220	0.620	9.07	8.07	-4.15
50	0.975	13.00	19.96	-0.22	230	0.525	7.63	5.79	-5.60
60	0.995	13.18	20.79	-0.04	240	0.425	5.79	3.79	-7.43
70	0.985	13.09	20.37	-0.13	250	0.315	3.19	2.08	-10.03
80	0.955	12.82	19.15	-0.40	260	0.225	0.27	1.06	-12.96
90	0.930	12.59	18.16	-0.63	270	0.190	-1.20	0.76	-14.42
100	0.910	12.40	17.39	-0.82	280	0.210	-0.33	0.93	-13.56
110	0.900	12.31	17.01	-0.92	290	0.245	1.01	1.26	-12.22
120	0.905	12.36	17.20	-0.87	300	0.235	0.64	1.16	-12.58
130	0.915	12.45	17.58	-0.77	310	0.195	-0.98	0.80	-14.20
140	0.935	12.64	18.36	-0.58	320	0.195	-0.98	0.80	-14.20
150	0.965	12.91	19.56	-0.31	330	0.255	1.35	1.37	-11.87
160	0.990	13.13	20.58	-0.09	340	0.355	4.23	2.65	-9.00
170	0.990	13.13	20.58	-0.09	350	0.465	6.57	4.54	-6.65

Rotation Angle = 0

## Vertical Elevation Pattern

Angle (deg)	Relative Field
-10.0	0.029
-9.0	0.112
-8.0	0.126
-7.0	0.043
-6.0	0.099
-5.0	0.209
-4.0	0.184
-3.0	0.024
-2.0	0.372
-1.0	0.736
0.0	0.968
1.0	0.968
2.0	0.736
3.0	0.372
4.0	0.024
5.0	0.183
6.0	0.209
7.0	0.1
8.0	0.042
9.0	0.125
10.0	0.113
11.0	0.03
12.0	0.058
13.0	0.096
14.0	0.068
15.0	0.0
16.0	0.061
17.0	0.076
18.0	0.042
19.0	0.015
20.0	0.059
21.0	0.063
22.0	0.028
23.0	0.021
24.0	0.055
25.0	0.055
26.0	0.022
27.0	0.022
28.0	0.051
29.0	0.051
30.0	0.023
31.0	0.017
32.0	0.046
33.0	0.051
34.0	0.03
35.0	0.006
36.0	0.039
37.0	0.052



38.0	0.041
39.0	0.011
40.0	0.023
41.0	0.048
42.0	0.052
43.0	0.035
44.0	0.004
45.0	0.028
46.0	0.05
47.0	0.055
48.0	0.04
49.0	0.011
50.0	0.021
51.0	0.047
52.0	0.06
53.0	0.056
54.0	0.036
55.0	0.007
56.0	0.025
57.0	0.051
58.0	0.067
59.0	0.068

60.0	0.056
61.0	0.033
62.0	0.003
63.0	0.028
64.0	0.056
65.0	0.076
66.0	0.086
67.0	0.086
68.0	0.076
69.0	0.057
70.0	0.032
71.0	0.004
72.0	0.026
73.0	0.054
74.0	0.08
75.0	0.101
76.0	0.117
77.0	0.129
78.0	0.135
79.0	0.137
80.0	0.135
81.0	0.129
82.0	0.12
83.0	0.109
84.0	0.096
85.0	0.082
86.0	0.066
87.0	0.05
88.0	0.034
89.0	0.017
90.0	0.0

tvstudy v2.2.5 (4uoc83)  
 Database: 127.0.0.1, Study: BLANK0000065599 #97, Model: Longley-Rice  
 Start: 2020.09.03 14:07:15

Study created: 2020.09.03 14:07:15

Study build station data: LMS TV 2020-09-03

Proposal: WQHA D25 DT LIC AGUADA, PR  
 File number: BLANK0000065599  
 Facility ID: 3255  
 Station data: User record  
 Record ID: 96  
 Country: U.S.  
 Zone: II

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WUJA	D24	DT	CP	CAGUAS, PR	BLANK0000059688	69.1 km
Yes	WUJA	D24	DT	BL	CAGUAS, PR	DTVBL8156	69.1
No	WQQZ-CD	D24	DC	LIC	PONCE, PR	BLANK0000058704	17.3
Yes	WIPR-TV	D26	DT	CP	SAN JUAN, PR	BLANK0000034681	76.3
Yes	WIPR-TV	D26	DT	BL	SAN JUAN, PR	DTVBL53859	76.3

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D25  
 Latitude: 18 13 56.50 N (NAD83)  
 Longitude: 66 45 42.00 W  
 Height AMSL: 946.1 m  
 HAAT: 328.0 m  
 Peak ERP: 21.0 kW  
 Antenna: JAM-JA-SS-16.25 SHC (ID 1004519) 25.0 deg  
 Elev Pattn: Generic



Elec Tilt: 0.75

39.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	6.82 kW	584.6 m	79.5 km
45.0	19.4	742.5	93.1
90.0	18.2	568.8	86.4
135.0	17.8	270.0	68.1
180.0	19.0	173.3	61.8
225.0	6.82	248.9	61.7
270.0	0.758	510.6	62.1
315.0	0.680	539.1	62.2

Database HAAT does not agree with computed HAAT

Database HAAT: 455 m    Computed HAAT: 455 m

Distance to Canadian border: 2950.4 km

Distance to Mexican border: 3214.7 km

Conditions at FCC monitoring station: Santa Isabel PR

Bearing: 121.7 degrees    Distance: 48.0 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 311.8 degrees    Distance: 4403.5 km

Study cell size: 2.00 km

Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

---

Interference to BLANK0000059688 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WUJA	D24	DT	CP	CAGUAS, PR	BLANK0000059688	
Undesireds:	WQHA	D25	DT	BL	AGUADA, PR	DTVBL3255	114.2 km
	WQHA	D25	DT	LIC	AGUADA, PR	BLANK0000065599	69.1
	WVSN	D23	DT	LIC	HUMACAO, PR	BLANK0000077885	27.1
	WQQZ-CD	D24	DC	LIC	PONCE, PR	BLANK0000058704	71.3

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
17716.3	2,684,236	14803.4	2,421,329	13909.4	2,390,739	13889.4	2,382,460	0.14	0.35

Undesired	Total IX	Unique IX, before	Unique IX, after
WQHA D25 DT BL	0.0	0	0
WQHA D25 DT LIC	24.0	8,446	20.0 8,279
WVSN D23 DT LIC	821.8	29,999	356.6 29,381 352.6 29,214
WQQZ-CD D24 DC LIC	537.4	1,209	72.2 591 72.2 591

-----

Interference to DTVBL8156 BL scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WUJA	D24	DT	BL	CAGUAS, PR	DTVBL8156	
Undesireds:	WQHA	D25	DT	BL	AGUADA, PR	DTVBL3255	114.2 km
	WQHA	D25	DT	LIC	AGUADA, PR	BLANK0000065599	69.1
	WVSN	D23	DT	LIC	HUMACAO, PR	BLANK0000077885	27.1
	WQQZ-CD	D24	DC	LIC	PONCE, PR	BLANK0000058704	71.3

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
16337.3	2,638,361	13624.8	2,392,843	12718.9	2,355,475	12694.9	2,346,250	0.19	0.39

Undesired	Total IX	Unique IX, before	Unique IX, after
WQHA D25 DT BL	0.0	0	0
WQHA D25 DT LIC	28.0	9,361	24.0 9,225
WVSN D23 DT LIC	885.9	37,355	484.8 36,737 480.8 36,601
WQQZ-CD D24 DC LIC	421.1	631	20.0 13 20.0 13

-----

Interference to BLANK0000034681 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WIPR-TV	D26	DT	CP	SAN JUAN, PR	BLANK0000034681	
Undesireds:	WQHA	D25	DT	BL	AGUADA, PR	DTVBL3255	122.3 km
	WQHA	D25	DT	LIC	AGUADA, PR	BLANK0000065599	76.3
	WAPA-TV	D27	DT	CP	SAN JUAN, PR	BLANK0000055015	0.4
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
49525.9	3,748,098	48085.3	3,347,609	47921.2	3,303,019	47833.2 3,295,035	0.18 0.24
Undesired		Total IX		Unique IX, before		Unique IX, after	
WQHA D25 DT BL		100.0	24,888	100.0	24,888		
WQHA D25 DT LIC		188.0	32,872			188.0 32,872	
WAPA-TV D27 DT CP		64.1	19,702	64.1	19,702	64.1 19,702	

-----

Interference to BLANK0000034681 CP scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WIPR-TV	D26	DT	CP	SAN JUAN, PR	BLANK0000034681	
Undesireds:	WQHA	D25	DT	BL	AGUADA, PR	DTVBL3255	122.3 km
	WQHA	D25	DT	LIC	AGUADA, PR	BLANK0000065599	76.3
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
49525.9	3,748,098	48085.3	3,347,609	47985.3	3,322,721	47897.2 3,314,737	0.18 0.24
Undesired		Total IX		Unique IX, before		Unique IX, after	
WQHA D25 DT BL		100.0	24,888	100.0	24,888		
WQHA D25 DT LIC		188.0	32,872			188.0 32,872	

-----

Interference to DTVBL53859 BL scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WIPR-TV	D26	DT	BL	SAN JUAN, PR	DTVBL53859	
Undesireds:	WQHA	D25	DT	BL	AGUADA, PR	DTVBL3255	122.4 km

WQHA	D25	DT	LIC	AGUADA, PR	BLANK0000065599	76.3
WAPA-TV	D27	DT	CP	SAN JUAN, PR	BLANK0000055015	0.4

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
44654.9	3,596,802	43278.4	3,214,120	43046.3	3,138,635	42970.2	3,128,548	0.18 0.32

Undesired		Total IX		Unique IX, before		Unique IX, after
WQHA D25 DT BL	44.0	11,096	44.0	11,096		
WQHA D25 DT LIC	124.0	21,373			120.0	21,183
WAPA-TV D27 DT CP	188.1	64,389	188.1	64,389	184.1	64,199

-----

Interference to DTVBL53859 BL scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WIPR-TV	D26	DT	BL	SAN JUAN, PR	DTVBL53859	
Undesireds:	WQHA	D25	DT	BL	AGUADA, PR	DTVBL3255	122.4 km
	WQHA	D25	DT	LIC	AGUADA, PR	BLANK0000065599	76.3
	WAPA-TV	D27	DT	LIC	SAN JUAN, PR	BLCDT20060621ACQ	0.0

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
44654.9	3,596,802	43278.4	3,214,120	43166.3	3,199,324	43086.3	3,189,047	0.19 0.32

Undesired		Total IX		Unique IX, before		Unique IX, after
WQHA D25 DT BL	44.0	11,096	44.0	11,096		
WQHA D25 DT LIC	124.0	21,373			124.0	21,373
WAPA-TV D27 DT LIC	68.1	3,700	68.1	3,700	68.1	3,700

-----

Interference to proposal scenario 1

21.66% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WQHA	D25	DT	LIC	AGUADA, PR	BLANK0000065599	
Undesireds:	WUJA	D24	DT	CP	CAGUAS, PR	BLANK0000059688	69.1 km
	WQQZ-CD	D24	DC	LIC	PONCE, PR	BLANK0000058704	17.3
	WIPR-TV	D26	DT	CP	SAN JUAN, PR	BLANK0000034681	76.3

Service area	Terrain-limited	IX-free	Percent IX
16896.6 3,229,803	12107.5 2,256,735	10909.3 1,767,860	9.90 21.66

Undesired	Total IX	Unique IX	Prcnt Unique IX
WUJA D24 DT CP	196.0 362,379	40.0 72,346	0.33 3.21
WQQZ-CD D24 DC LIC	733.8 38,082	84.2 19,090	0.70 0.85
WIPR-TV D26 DT CP	1074.1 397,439	268.4 88,414	2.22 3.92

-----

Interference to proposal scenario 2  
20.65% interference received

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WQHA	D25	DT	LIC	AGUADA, PR	BLANK0000065599	
Undesireds: WUJA	D24	DT	CP	CAGUAS, PR	BLANK0000059688	69.1 km
WQQZ-CD	D24	DC	LIC	PONCE, PR	BLANK0000058704	17.3
WIPR-TV	D26	DT	BL	SAN JUAN, PR	DTVBL53859	76.3

Service area	Terrain-limited	IX-free	Percent IX
16896.6 3,229,803	12107.5 2,256,735	10953.3 1,790,773	9.53 20.65

Undesired	Total IX	Unique IX	Prcnt Unique IX
WUJA D24 DT CP	196.0 362,379	44.0 73,813	0.36 3.27
WQQZ-CD D24 DC LIC	733.8 38,082	148.3 29,914	1.22 1.33
WIPR-TV D26 DT BL	961.9 362,235	224.4 65,501	1.85 2.90

-----

Interference to proposal scenario 3  
21.44% interference received

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WQHA	D25	DT	LIC	AGUADA, PR	BLANK0000065599	
Undesireds: WUJA	D24	DT	BL	CAGUAS, PR	DTVBL8156	69.1 km
WQQZ-CD	D24	DC	LIC	PONCE, PR	BLANK0000058704	17.3
WIPR-TV	D26	DT	CP	SAN JUAN, PR	BLANK0000034681	76.3

Service area	Terrain-limited	IX-free	Percent IX
16896.6 3,229,803	12107.5 2,256,735	10913.3 1,772,829	9.86 21.44

Undesired	Total IX	Unique IX	Prcnt Unique IX
WUJA D24 DT BL	184.0 342,965	36.0 67,377	0.30 2.99
WQQZ-CD D24 DC LIC	733.8 38,082	84.2 19,090	0.70 0.85
WIPR-TV D26 DT CP	1074.1 397,439	276.4 102,859	2.28 4.56

-----

Interference to proposal scenario 4  
20.43% interference received

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WQHA	D25	DT	LIC	AGUADA, PR	BLANK0000065599	
Undesireds: WUJA	D24	DT	BL	CAGUAS, PR	DTVBL8156	69.1 km
WQQZ-CD	D24	DC	LIC	PONCE, PR	BLANK0000058704	17.3
WIPR-TV	D26	DT	BL	SAN JUAN, PR	DTVBL53859	76.3

Service area	Terrain-limited	IX-free	Percent IX
16896.6 3,229,803	12107.5 2,256,735	10957.3 1,795,742	9.50 20.43

Undesired	Total IX	Unique IX	Prcnt Unique IX
WUJA D24 DT BL	184.0 342,965	40.0 68,844	0.33 3.05
WQQZ-CD D24 DC LIC	733.8 38,082	148.3 29,914	1.22 1.33
WIPR-TV D26 DT BL	961.9 362,235	232.4 79,946	1.92 3.54

**WQHA-D**

0000065599

Latitude: 18-18-41.80 N

Longitude: 067-11-24.60 W

ERP: 26.90 kW

Channel: 25

Frequency: 539.0 MHz

AMSL Height: 376.0 m

Elevation: 344.0 m

Horiz. Pattern: Directional

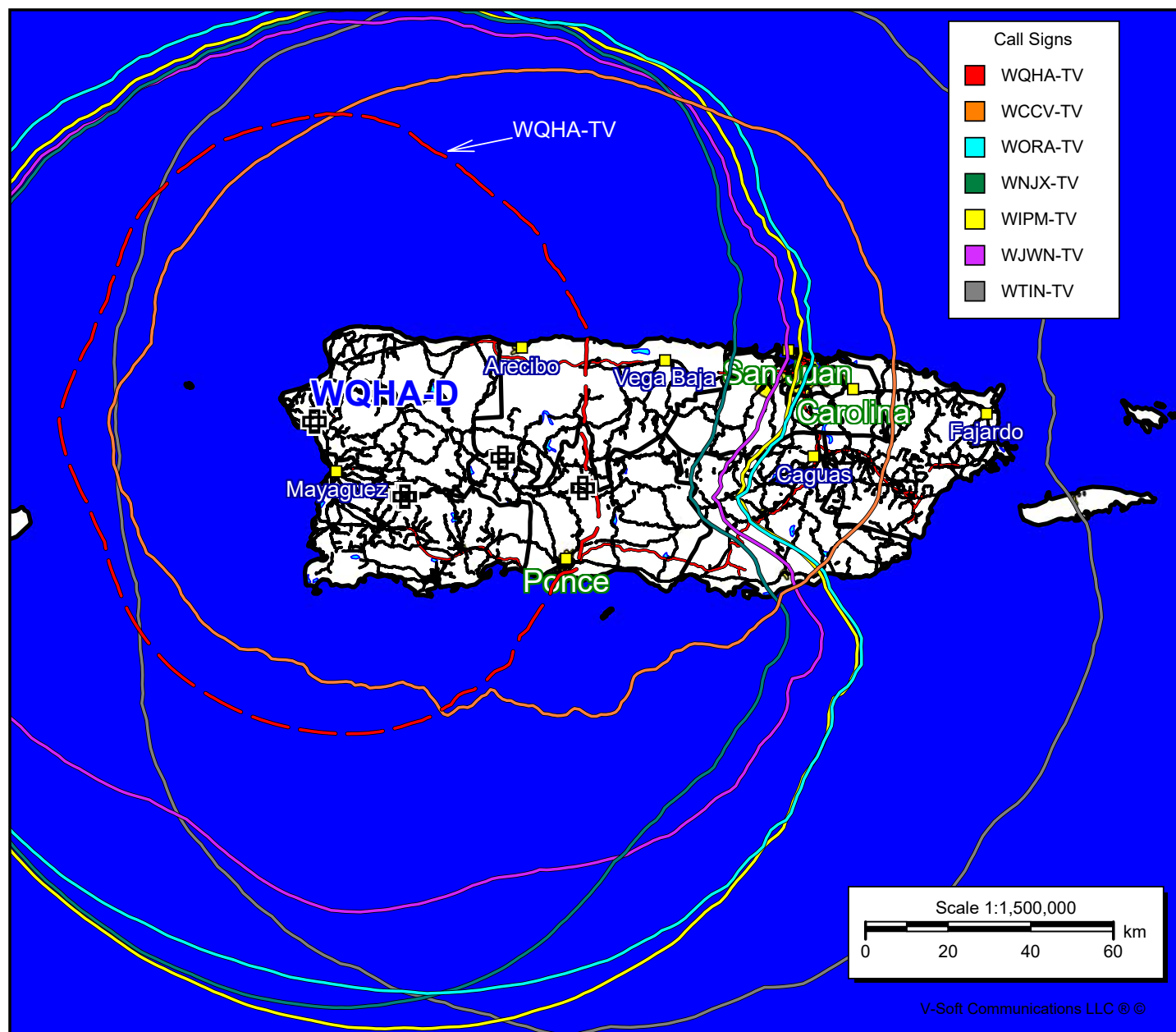
Vert. Pattern: Yes

Elec Tilt: 0.8

Prop Model: None

**Doug Vernier**1600 Picturesque Dr.  
Cedar Falls, Iowa 50613

Telecommunication Consultants



**Declaration:**

I, Douglas L. Vernier, declare that I have received training as an engineer from the University of Michigan, School of Engineering. That, I have received degrees from the University in the field of Broadcast Telecommunications. That, I have been active in broadcast consulting for over 40 years.

That, I have held a Federal Communications Commission First Class Radiotelephone License continually since 1964. In 1985, this license was reissued by the Commission as a lifetime General Radiotelephone license no. PG-16-16464.

That, I am certified as a Professional Broadcast Engineer (#50258) by the Society of Broadcast Engineers, Indianapolis, Indiana. (Life-time Certification received in 2010).

That, my qualifications are a matter of record with the Federal Communications Commission.

That, I have been retained by Western New Life, Inc. to prepare the engineering showings appended hereto.

That, I have prepared these broadcast engineering showings, the technical information contained in same and the facts stated within are true of my knowledge.

That, under penalty of perjury, I declare that the foregoing is correct.

Douglas L. Vernier

A handwritten signature in blue ink, appearing to read "Doug Vernier", with a large, stylized loop at the end.

Executed of September 4, 2020