TECHNICAL EXHIBIT
REQUEST FOR SPECIAL TEMPORARY
AUTHORITY
TELEVISION STATION WQHA-DT (STA)
AGUADA, PUERTO RICO

September 25, 2002

CHANNEL 62 2.9 KW 310 M

TECHNICAL EXHIBIT
REQUEST FOR SPECIAL TEMPORARY AUTHORITY
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AGUADA, PUERTO RICO
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Technical Statement

This Technical Statement was prepared on behalf of WQHA-DT, Aguada, Puerto Rico (Channel 62) concerning a request for Special Temporary Authority (STA). WQHA-DT has a construction permit for a digital television operation with a maximum directional effective radiated power (ERP) of 50.1 kW and an antenna height above average terrain (HAAT) of 310 m.* This request is made pursuant to the DTV STA provisions outlined in the FCC *Memorandum Opinion and Order on Reconsideration, In the Matter of Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, MM Docket No. 00-39, Released: November 15, 2001.

The proposed WQHA-DT STA facility is to operate at the same site as authorized in the WQHA-DT construction permit, but using a lower nominal non-directional effective radiated power of 2.9 kW and an antenna height above average terrain of 310 m. The specifications of the proposed WQHA-DT STA operation are summarized in the attached Appendix 2. There will be no change in the overall height of the existing antenna structure as a result of the proposed operation.

The 41 dBu, f(50,90) noise limited contour of the proposed WQHA-DT STA facility is located entirely within the predicted 41 dBu, f(50,90) noise limited contour of the WQHA-DT construction permit facility. Figure 1 is a map illustrating the

* See FCC File No. BPCDT-19991027ADM.

predicted coverage contours for the proposed WQHA-DT STA operation and the WQHA-DT construction permit facility. Also, as indicated in Figure 1, the predicted 48 dBu, f(50,90) contour fully encompasses the city limits of Aguada, as required.

There are other broadcast and non-broadcast facilities to be located in proximity to the proposed facility. No adverse electromagnetic impact is expected with respect to these facilities. However, the applicant recognizes its responsibility to correct objectionable electromagnetic interference problems that result from its proposed operation.

With respect to the potential for human exposure to radio frequency (RF) radiation, calculations prepared in accordance with FCC Bulletin OET-65 (Edition 97-01) indicate that the proposal will not result in human exposure to RF radiation at ground level in excess of FCC standards. Power density calculations were conducted at 2-m above ground† based on the following conservative assumptions, with the following results:

Call Sign	**Channel**	**Peak Visual ERP or Average ERP (kW)**	**Aural ERP (kW)**	**Relative Field Factor‡**	**FCC Limit§ (mW/cm^2)**	**Percentage of Limit**
WQHA-DT	62	2.9	--	0.20	0.505	0.46%

As indicated above, the exposure to RF radiation at 2-m above ground level will not exceed 0.46% of the FCC limit for general population / uncontrolled exposure.

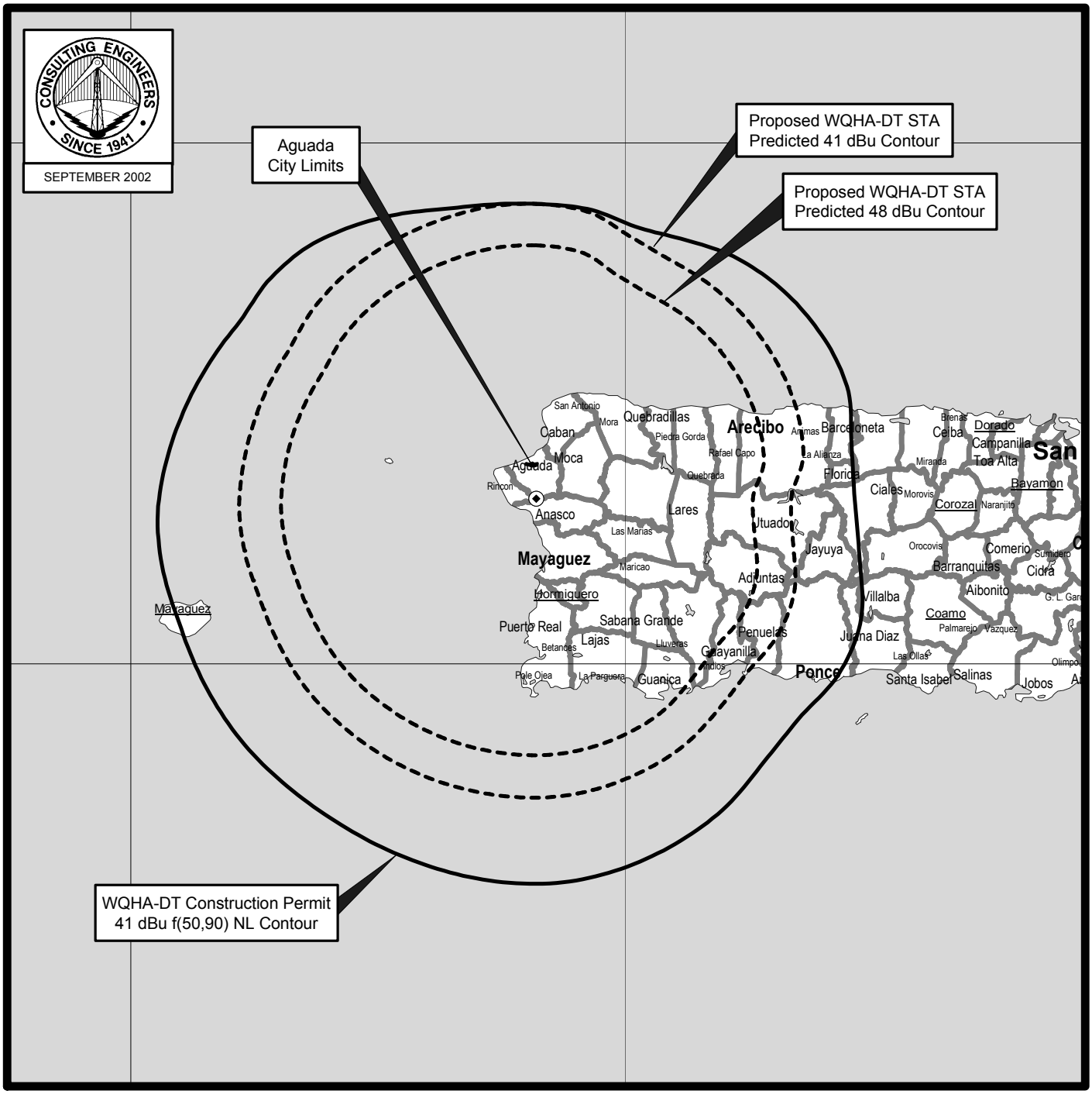
† The radiation center height above ground is 43 m.
‡ This is a conservative estimate of the elevation pattern relative field toward ground level. See elevation pattern at Appendix 1.
§ for general population/uncontrolled environments

Therefore, the proposal complies with the FCC limits for human exposure to RF radiation and it is categorically excluded from environmental processing. The applicant shall reduce power or cease operation as necessary to protect persons having access to the tower or antenna from radio frequency radiation in excess of the FCC guidelines.

Louis Robert du Treil, Jr.

September 25, 2002

Figure 1



Scale 1:1 250 000

PREDICTED COVERAGE CONTOURS

TELEVISION STATION WQHA-DT (STA)
AGUADA, PUERTO RICO
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du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Appendix 1

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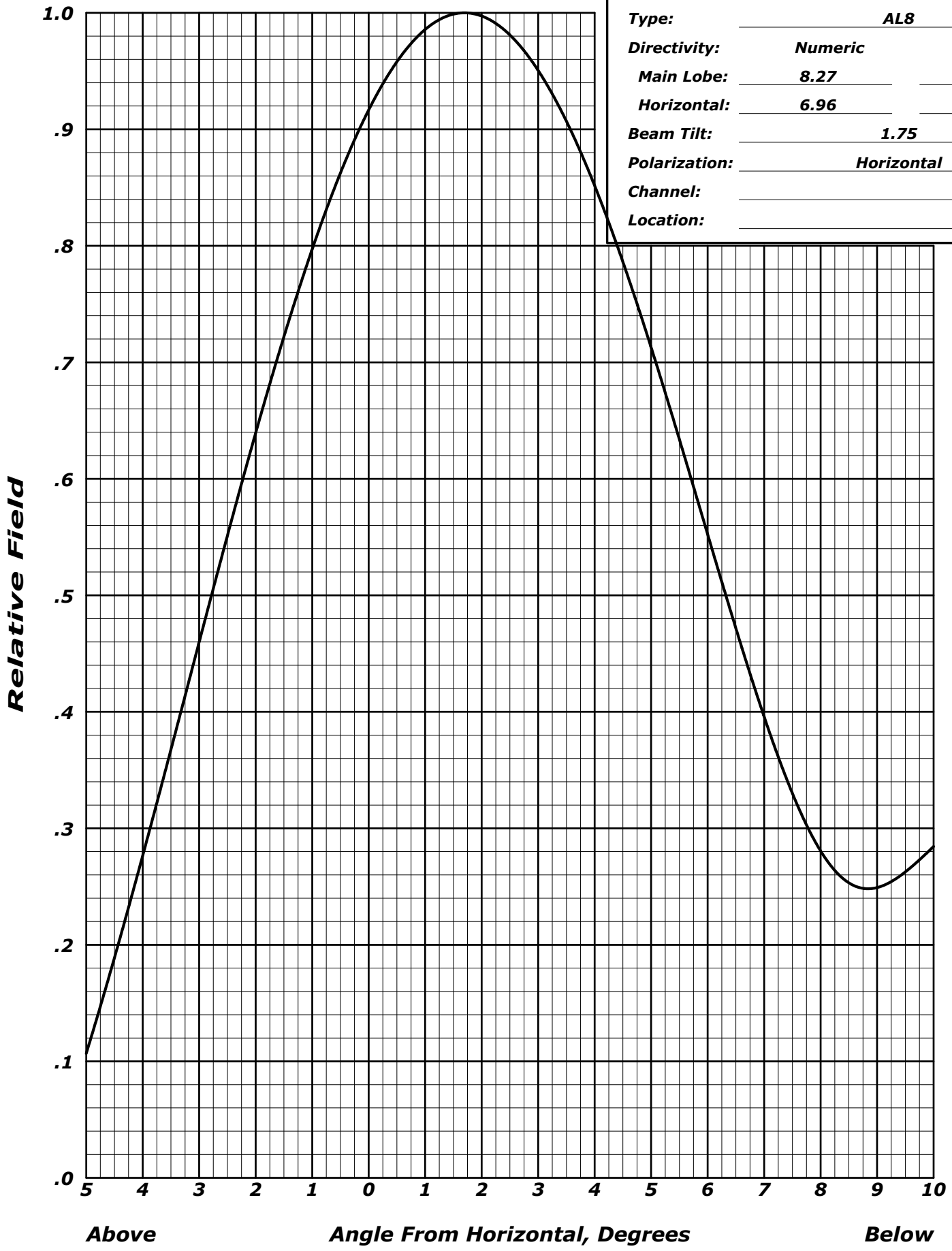
Transmitting Antenna
Manufacturer's Vertical Plane Pattern Data

(two pages follow)

ANDREW

ELEVATION PATTERN

Type:	AL8	
Directivity:	Numeric	dBd
Main Lobe:	8.27	(9.18)
Horizontal:	6.96	(8.43)
Beam Tilt:	1.75	
Polarization:	Horizontal	
Channel:		
Location:		



ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A. 60462

ANDREW

TABULATED DATA FOR ELEVATION PATTERN
TYPE : AL8

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-5 To 10			10 To 90								
In 0.25 Increments			In 0.5 Increments								
-5.00	0.107	-19.43	8.75	0.248	-12.09	35.00	0.043	-27.30	62.50	0.093	-20.65
-4.75	0.147	-16.65	9.00	0.249	-12.07	35.50	0.057	-24.81	63.00	0.093	-20.60
-4.50	0.189	-14.47	9.25	0.254	-11.89	36.00	0.070	-23.11	63.50	0.093	-20.63
-4.25	0.232	-12.68	9.50	0.263	-11.61	36.50	0.080	-21.95	64.00	0.092	-20.72
-4.00	0.277	-11.17	9.75	0.273	-11.28	37.00	0.087	-21.18	64.50	0.090	-20.87
-3.75	0.322	-9.85	10.00	0.284	-10.92	37.50	0.092	-20.74	65.00	0.088	-21.09
-3.50	0.368	-8.69	10.50	0.307	-10.26	38.00	0.094	-20.57	65.50	0.086	-21.36
-3.25	0.414	-7.67	11.00	0.325	-9.76	38.50	0.093	-20.68	66.00	0.082	-21.68
-3.00	0.460	-6.75	11.50	0.336	-9.46	39.00	0.089	-21.04	66.50	0.079	-22.05
-2.75	0.506	-5.92	12.00	0.340	-9.38	39.50	0.082	-21.70	67.00	0.075	-22.46
-2.50	0.551	-5.17	12.50	0.334	-9.52	40.00	0.073	-22.68	67.50	0.072	-22.91
-2.25	0.596	-4.50	13.00	0.321	-9.88	40.50	0.063	-24.07	68.00	0.068	-23.39
-2.00	0.639	-3.88	13.50	0.300	-10.46	41.00	0.050	-26.03	68.50	0.064	-23.88
-1.75	0.682	-3.33	14.00	0.273	-11.28	41.50	0.036	-28.90	69.00	0.060	-24.39
-1.50	0.722	-2.83	14.50	0.242	-12.33	42.00	0.021	-33.63	69.50	0.057	-24.89
-1.25	0.761	-2.38	15.00	0.208	-13.64	42.50	0.006	-44.97	70.00	0.054	-25.36
-1.00	0.797	-1.97	15.50	0.175	-15.16	43.00	0.012	-38.45	70.50	0.051	-25.79
-0.75	0.831	-1.61	16.00	0.145	-16.79	43.50	0.028	-31.09	71.00	0.049	-26.16
-0.50	0.862	-1.29	16.50	0.123	-18.21	44.00	0.044	-27.20	71.50	0.048	-26.46
-0.25	0.891	-1.00	17.00	0.114	-18.89	44.50	0.059	-24.62	72.00	0.046	-26.66
0.00	0.917	-0.76	17.50	0.118	-18.59	45.00	0.073	-22.75	72.50	0.046	-26.78
0.25	0.939	-0.55	18.00	0.130	-17.69	45.50	0.086	-21.34	73.00	0.046	-26.81
0.50	0.958	-0.37	18.50	0.147	-16.68	46.00	0.097	-20.26	73.50	0.046	-26.78
0.75	0.974	-0.23	19.00	0.162	-15.83	46.50	0.107	-19.43	74.00	0.046	-26.69
1.00	0.986	-0.13	19.50	0.173	-15.22	47.00	0.115	-18.81	74.50	0.047	-26.56
1.25	0.994	-0.05	20.00	0.180	-14.88	47.50	0.121	-18.37	75.00	0.048	-26.42
1.50	0.999	-0.01	20.50	0.182	-14.79	48.00	0.125	-18.08	75.50	0.049	-26.27
1.75	1.000	-0.00	21.00	0.178	-14.97	48.50	0.127	-17.94	76.00	0.049	-26.14
2.00	0.997	-0.02	21.50	0.169	-15.42	49.00	0.127	-17.93	76.50	0.050	-26.01
2.25	0.991	-0.08	22.00	0.156	-16.16	49.50	0.125	-18.05	77.00	0.051	-25.92
2.50	0.981	-0.17	22.50	0.138	-17.22	50.00	0.122	-18.31	77.50	0.051	-25.85
2.75	0.967	-0.29	23.00	0.117	-18.67	50.50	0.116	-18.69	78.00	0.051	-25.81
3.00	0.951	-0.44	23.50	0.093	-20.61	51.00	0.110	-19.21	78.50	0.051	-25.81
3.25	0.930	-0.63	24.00	0.069	-23.20	51.50	0.101	-19.88	79.00	0.051	-25.85
3.50	0.907	-0.85	24.50	0.047	-26.59	52.00	0.092	-20.72	79.50	0.051	-25.92
3.75	0.881	-1.10	25.00	0.033	-29.69	52.50	0.082	-21.75	80.00	0.050	-26.04
4.00	0.852	-1.40	25.50	0.037	-28.61	53.00	0.071	-23.03	80.50	0.049	-26.20
4.25	0.820	-1.72	26.00	0.054	-25.41	53.50	0.059	-24.61	81.00	0.048	-26.40
4.50	0.786	-2.09	26.50	0.072	-22.82	54.00	0.047	-26.62	81.50	0.047	-26.65
4.75	0.750	-2.49	27.00	0.089	-20.98	54.50	0.034	-29.29	82.00	0.045	-26.94
5.00	0.713	-2.94	27.50	0.104	-19.70	55.00	0.022	-33.12	82.50	0.043	-27.29
5.25	0.674	-3.43	28.00	0.114	-18.84	55.50	0.011	-39.47	83.00	0.041	-27.70
5.50	0.634	-3.96	28.50	0.121	-18.34	56.00	0.007	-43.52	83.50	0.039	-28.16
5.75	0.593	-4.53	29.00	0.124	-18.14	56.50	0.016	-35.88	84.00	0.037	-28.70
6.00	0.552	-5.15	29.50	0.123	-18.22	57.00	0.027	-31.44	84.50	0.034	-29.30
6.25	0.512	-5.82	30.00	0.118	-18.58	57.50	0.037	-28.61	85.00	0.032	-30.00
6.50	0.472	-6.53	30.50	0.109	-19.22	58.00	0.047	-26.60	85.50	0.029	-30.80
6.75	0.433	-7.27	31.00	0.098	-20.19	58.50	0.056	-25.09	86.00	0.026	-31.72
7.00	0.396	-8.05	31.50	0.084	-21.53	59.00	0.064	-23.93	86.50	0.023	-32.78
7.25	0.361	-8.84	32.00	0.068	-23.38	59.50	0.071	-23.02	87.00	0.020	-34.05
7.50	0.330	-9.63	32.50	0.050	-25.96	60.00	0.077	-22.30	87.50	0.017	-35.56
7.75	0.303	-10.37	33.00	0.032	-29.79	60.50	0.082	-21.74	88.00	0.013	-37.45
8.00	0.281	-11.04	33.50	0.016	-35.89	61.00	0.086	-21.31	88.50	0.010	-39.91
8.25	0.264	-11.57	34.00	0.013	-37.44	61.50	0.089	-20.99	89.00	0.007	-43.40
8.50	0.253	-11.93	34.50	0.028	-31.20	62.00	0.091	-20.78	89.50	0.003	-49.40

Appendix 2

TECHNICAL EXHIBIT
REQUEST FOR SPECIAL TEMPORARY AUTHORITY
TELEVISION STATION WQHA-DT (STA)
AGUADA, PUERTO RICO
CHANNEL 62 2.9 KW 310 M

FCC Form 301, Section III-D, Tech Box

(two pages follow)

ECTION III-D DTV Engineering

ECHNICAL SPECIFICATIONS

nsure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items ust be completed. The response "on file" is not acceptable.

ECH BOX

1. Channel Number: DTV 62 Analog TV, if any 50

2. Zone: ☐ I ☒ II ☐ III

3. Antenna Location Coordinates: (NAD 27)

   18 ° 19 ' 07 " ☒ N ☐ S Latitude

   67 ° 10 ' 48 " ☐ E ☒ W Longitude

4. Antenna Structure Registration Number: _____

   ☒ Not applicable ☐ FAA Notification Filed with FAA

5. Antenna Location Site Elevation Above Mean Sea Level: 350 meters

6. Overall Tower Height Above Ground Level: 61 meters

7. Height of Radiation Center Above Ground Level: 43 meters

8. Height of Radiation Center Above Average Terrain: 310 meters

9. Maximum Effective Radiated Power (average power): 2.9 kW

10. Antenna Specifications:

a.

Manufacturer	Model
AND	AL8

b. Electrical Beam Tilt: 1.75 degrees ☐ Not Applicable

c. Mechanical Beam Tilt: _____ degrees toward azimuth _____ degrees True ☒ Not Applicable

Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). Exhibit No.

d. Polarization: ☒ Horizontal ☐ Circular ☐ Elliptical

ECH BOX

e. Directional Antenna Relative Field Values: [x] Not applicable (Nondirectional)

Rotation: _____ ° [ ] No rotation

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0		60		120		180		240		300	
10		70		130		190		250		310	
20		80		140		200		260		320	
30		90		150		210		270		330	
40		100		160		220		280		340	
50		110		170		230		290		350	
Additional Azimuths											

If a directional antenna is proposed, the requirements of 47 C.F.R. Section 73.625(c) must be satisfied. **Exhibit required.**

Exhibit No.

11. Does the proposed facility satisfy the interference protection provisions of 47 C.F.R. Section 73.623(a)? (Applicable only if **Certification Checklist** Items 1(a), (b), or (c) are answered "No.") [ ] Yes [ ] No

If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers.

Exhibit No.

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefor. (Applicable only if **Certification Checklist** Item 3 is answered "No.")

Exhibit No.

13. **Environmental Protection Act. Submit in an Exhibit** the following:

Exhibit No.
Tech. Exhibit

a. If **Certification Checklist** Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.

By checking "Yes" to **Certification Checklist** Item 2, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

If **Certification Checklist** Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R. Section 1.1311.

REPARER'S CERTIFICATION IN SECTION III MUST BE COMPLETED AND SIGNED.