

TECHNICAL EXHIBIT  
APPLICATION FOR MODIFICATION OF  
DTV CONSTRUCTION PERMIT  
FCC FILE NO. BPCDT-20000501AFS  
FACILITY ID 61573  
STATION WVEO-DT  
AGUADILLA, PUERTO RICO  
CH 17            42 KW (MAX-DA)            372 M

Technical Narrative

This technical exhibit was prepared in support of an application for modification of the construction permit for station WVEO-DT on channel 17 at Aguadilla, Puerto Rico (BPCDT-20000501AFS). By means of this instant modification application, WVEO-DT proposes to change the antenna system and slightly reduce ERP from 50.1 kW to 42 kW. No other changes are proposed. The instant application is considered a minor change in facilities pursuant to Section 73.3572(a). Furthermore, as detailed below, the instant application is also acceptable for filing under the criteria set forth in the FCC TV/DTV freeze as there will be no increase in WVEO-DT's authorized DTV service area in any direction.<sup>1</sup>

Proposed Facilities

It is proposed to operate WVEO-DT from the authorized site (FCC Tower registration 1012106, NAD27 coordinates: 18-19-06 N, 67-10-42 W) on DTV channel 17 (488-494 MHz) with a directional antenna maximum ERP of 42 kW and an antenna HAAT of 372 meters. It is proposed to utilize a Jampro model JA/LS-24/17 SHP directional antenna which will be mounted at the 56 meter level on the existing tower structure, and will be oriented at 90 degrees true.<sup>2</sup> The proposed antenna radiation center height above mean sea level will be 426 meters.

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<sup>1</sup> See FCC Public Notice dated August 3, 2004 entitled "Freeze on the Filing of Certain TV and DTV Requests for Allotment or Service Area Changes" (DA 04-2446).

<sup>2</sup> The major lobe orientations will be at 25°, and 155° true.

### Antenna Data

Figure 1 provides graphs of the horizontal and vertical plane relative field patterns for the proposed Jampro model JA/LS-24/17 SHP, horizontally polarized, directional antenna system.

### Response to Paragraph 11 - Interference Protection

Figure 2 is the separation study for DTV channel 17 from the proposed WVEO-DT site. The study has been used to determine the assignments requiring interference studies using the procedures outlined in the FCC's OET-69 bulletin. An interference analysis has been conducted using the procedures outlined in the FCC's OET-69 bulletin which demonstrates that the proposal complies with the interference protection provisions of Section 73.623(c)(2).<sup>3</sup>

### Class A Allocation Considerations

A study has been conducted which indicates that the WVEO-DT proposal will not create prohibited interference to other existing, authorized or proposed Class A stations.

### Compliance with TV Freeze Order

Figure 3 is a map which depicts the location of the predicted 41 dBu, F(50,90) contours for the authorized WVEO-DT operation (BPCDT-20000501AFS) and the herein proposed WVEO-DT DTV channel 17 operation. As indicated, the 41 dBu contour for the instant modification application is entirely within the 41 dBu contour for the authorized operation. Therefore, it is believed that the instant modification application is acceptable for filing under the criteria set forth in the FCC TV/DTV freeze as there will be no increase in WVEO-DT's DTV channel 17 service area, based on the authorized facilities, in any direction.

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<sup>3</sup> The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed.

### City Coverage

Figure 3 also depicts the predicted 48 dBu, F(50,90) coverage contour for the herein proposed WVEO-DT channel 17 operation. As indicated, Aguadilla is located within the 48 dBu contour. The Aguadilla city limits were derived from information contained in the 2000 U.S. Census for Puerto Rico.

The distances to the predicted 41 dBu and 48 dBu, F(50,90) coverage contours were determined in accordance with the provisions of Section 73.625. The average elevations from 3.2 to 16.1 kilometers from the transmitter site, were obtained from the NGDC 3-second terrain database and were used for determining the distances to coverage contours.

### Objectionable Interference

There are no AM stations located within 5 kilometers (2.5 miles) of the proposed transmitter site. Figure 4 provides a tabulation of all known authorized full service FM and TV stations within 16 kilometers of the proposed WVEO-DT site. Although no adverse electromagnetic impact is expected, the applicant recognizes its responsibility to correct problems, which are a result of its proposed operation.

The proposed site is more than 2826 kilometers from the closest point of the Canadian border. The proposed site is more than 2064 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Santa Isabel, Puerto Rico located 92 kilometers to the east. The National Radio Quiet Zone (VA/WV) is 2401 kilometers to the northwest. The Table Mountain Radio Quiet Zone (CO) is more than 4366 kilometers to the northwest. The closest radio astronomy site conducting research on TV channel 37 is at Arecibo, Puerto Rico located 45 kilometers to the east. All these separations are considered sufficient to avoid interference from the proposed operation. Furthermore, it is noted that the WVEO-DT predicted field strength based on the herein proposed facilities will be the same or less than the predicted field strength based on the WVEO-DT allotment in all directions.

Environmental Protection Act

The proposed facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed DTV antenna is located 30 meters above ground level. The maximum DTV ERP is 42 kW (horizontal polarization). A "worst-case" vertical plane relative field value of 0.15 (for angles below 60 degrees downward) is assumed for the antenna's downward radiation (see Figure 1, Sheet 2). The calculated power density at a point 2 meters above ground level is 0.0108 mW/cm<sup>2</sup>. This is 3.3% of the FCC's recommended limit of 0.33 mW/cm<sup>2</sup> for channel 17 for an "uncontrolled" environment. Therefore, based on the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with RFR warning signs. Furthermore, as this is a multi-user site, an agreement will be in effect with the other stations in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure.

Finally, it is noted that this technical exhibit only addresses the potential for radio frequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already has been

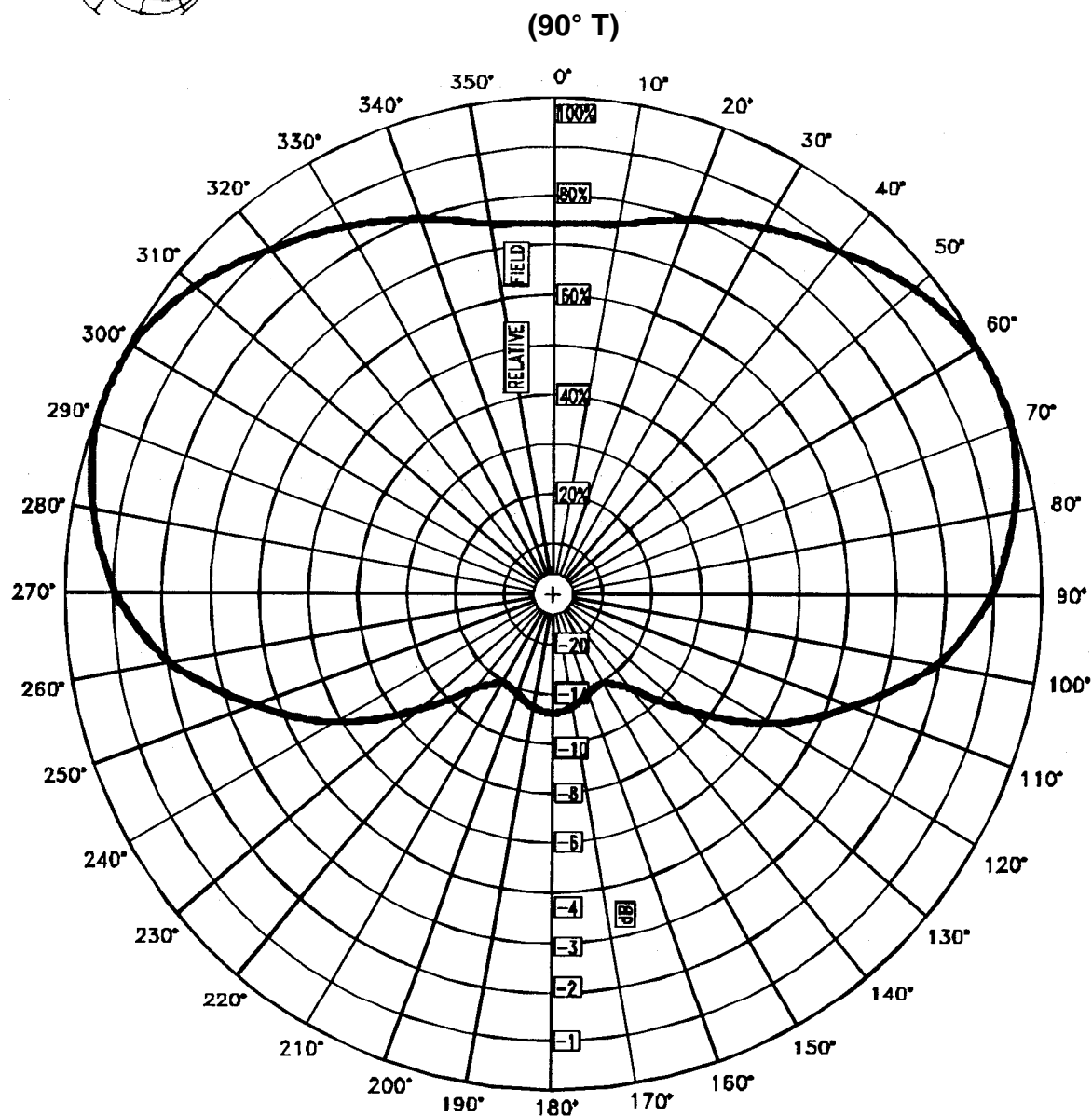
provided to the FCC by the tower owner as part of the tower registration process.



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June 30, 2006



## AZIMUTH PATTERN INFORMATION

Frequency: 632 MHz (UHF Mid-Band)

Model: Prostar Slot Antenna

Pattern: Peanut

Notes: UHF Slot Antenna

Figure 2

**CDBS TV/DTV SEPARATION STUDY**

Job Title: WVEO-DT, Aguadilla, PR

Channel: 17

Class:

Type: DT

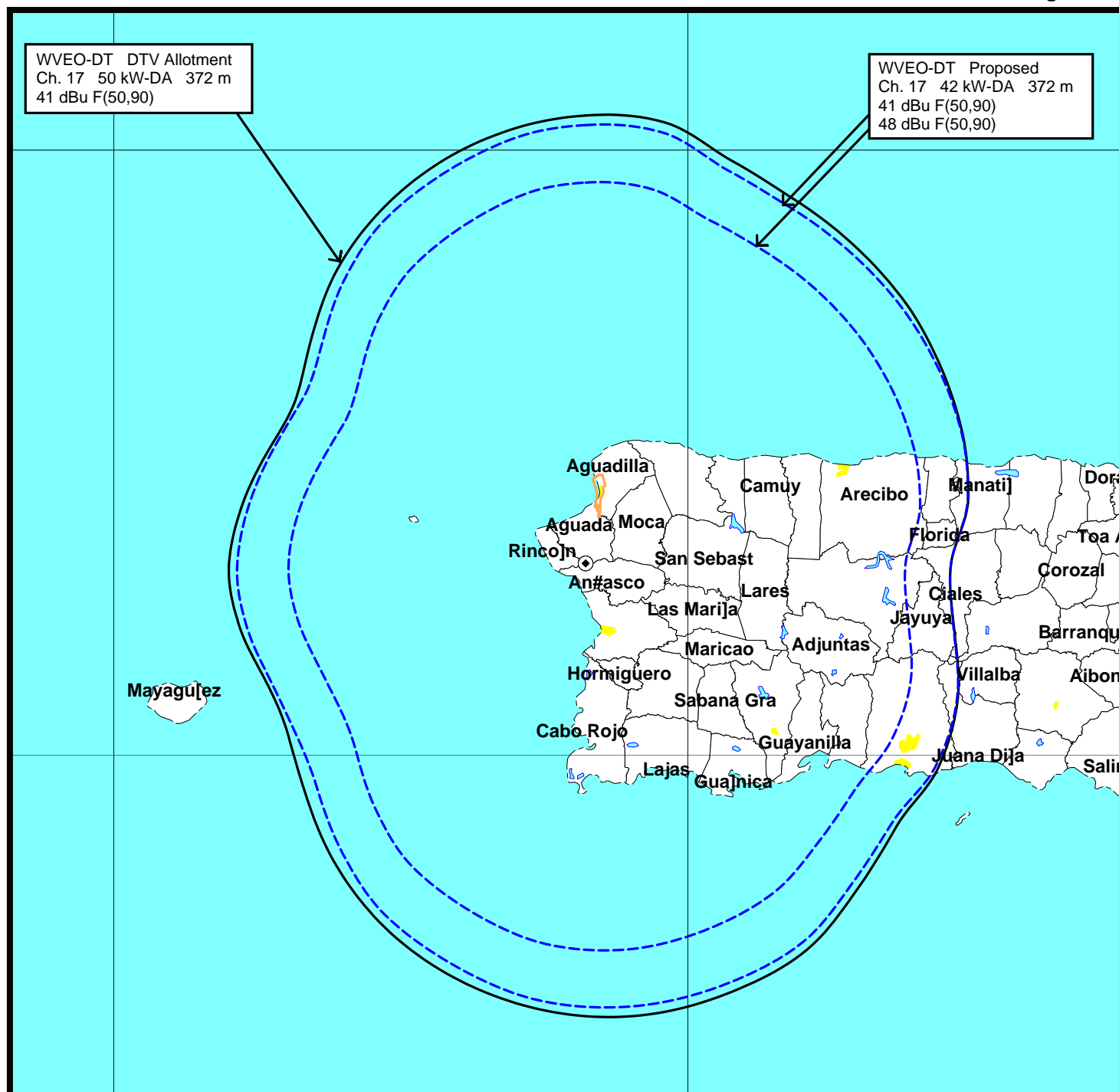
Separation Buffer: 32 km

Coordinates: 18-19-06 067-10-42

Zone: II

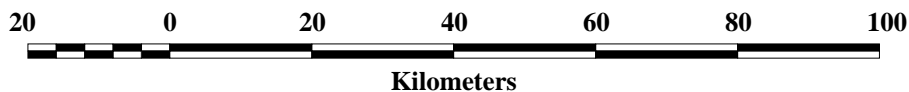
Call Id	City St	Status	File Num	Channel Zone	ERP HAAT	DA Id	Latitude Longitude	Bear	Dist. (km)	Req. min	max
WTIN 26681	PONCE PR LIC	C	BLCT 19971208KF	14(Z) II	1070.000 861	D 18944	18-10-11 066-34-38	104.5	65.7 30.93	24.1 Short	96.6
WTIN 26681	PONCE PR STA	C	BDSTA 20041229AG	15( ) II	50.000 839	D 67269	18-10-10 066-34-36	104.5	65.7 30.87	24.1 Short	96.6
WSJN-CA 48239	SAN JUAN PR LIC	C	BLTTL 19940223IC	15(N) II	38.800 18080	D 18080	18-17-42 066-09-56	91.2	107.1 10.50	0.0 Class A	0.0
WOST 60357	MAYAGUEZ PR CP	C	BPCT 19920102KE	16(Z) II	9.550 337.6	N 18194	18-18-51 067-11-24	249.4	1.3 10.68	12.0 Close	106.0
WVEO 61573	AGUADILLA PR STA	C	BDSTA 20030113AD	17( ) II	0.900 364	D 16352	18-19-06 067-10-42	95.1	0.0		
WVEO 61573	AGUADILLA PR CP	C	BPCDT 20000501AF	17( ) II	50.100 372	D 33219	18-19-06 067-10-42	95.1	0.0		
DWVEO	AGUADILLA PR DTV			17( ) II	50.100 372	D	18-19-06 067-10-42	90.1	0.0		
WVXF 3113	CHARLOTTE A VI LIC	C	BLCT 19990701KF	17(+) II	75.900 459	D 19676	18-21-26 064-56-50	88.6	235.9 8.73	244.6 Short	244.6
WTCV 28954	SAN JUAN PR STA	C	BDSTA 20030113AD	18( ) II	1.060 260	D 42325	18-16-30 066-05-36	92.2	114.8 8.81	12.0 Close	106.0
WKPV 58341	PONCE PR STA	C	BDSTA 20030331AU	19( ) II	50.000 269	D 59009	18-04-49 066-44-53	120.1	52.6 28.49	24.1 Short	96.6
WKPV 58341	PONCE PR LIC	C	BLCT 20010130AB	20(Z) II	77.600 288	D 41858	18-04-49 066-44-53	120.1	52.6 28.49	24.1 Short	96.6
WIMN-CA 2245	ARECIBO PR LIC	C	BLTTL 20010102AA	20(-) II	10.000 18179	D 18179	18-27-14 066-38-15	75.1	59.1 34.99	0.0 Class A	0.0

Figure 3



WVEO-DT DTV Allotment  
Ch. 17 50 kW-DA 372 m  
41 dBu F(50,90)

WVEO-DT Proposed  
Ch. 17 42 kW-DA 372 m  
41 dBu F(50,90)  
48 dBu F(50,90)



## PREDICTED COVERAGE CONTOURS

DTV STATION WVEO-DT  
AGUADILLA, PUERTO RICO  
CH 17 42 KW (MAX-DA) 372 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



***du Treil, Lundin, and Rackley***

**Coordinates: 18-19-06 067-10-42 Channel Range: - Range: 16**

Date: 6/30/2006

***CDBS Tv Inquiry List***

Page: 1

<b>Rec Type</b>	<b>Facility Id</b>	<b>Call</b>	<b>Status</b>	<b>Chan</b>	<b>Svc Class</b>	<b>Class</b>	<b>City</b>	<b>St</b>	<b>DA</b>	<b>Latitude</b>	<b>Longitude</b>	<b>ERP (kW)</b>	<b>HAAT (m)</b>	<b>RCAMSL (m)</b>	<b>Bearing</b>	<b>Dist. (km)</b>
C	58342	WJWN-T	LIC	38	TV		SAN SEBASTIAN	PR	D	18-19-06	067-10-42	85.100	332	395	0	0
C	61573	WVEO	LIC	44	TV		AGUADILLA	PR	D	18-19-06	067-10-42	309.000	372	435	0	0
C	61573	WVEO	CP	17	DT		AGUADILLA	PR	D	18-19-06	067-10-42	50.100	372	426	0	0
C	3255	WQHA	CP	62	DT		AGUADA	PR	N	18-19-07	067-10-48	2.900	310	393	279.8	0.18
C	3255	WQHA	LIC	50	TV		AGUADA	PR	D	18-19-06	067-10-49	501.000	343	406	269.9	0.21
C	26602	WELU	CP	32	TV		AGUADILLA	PR	N	18-18-46	067-11-09	7.100	317	385	232.0	1
C	26602	WELU	LIC	32	TV		AGUADILLA	PR	N	18-18-46	067-11-09	9.330	296	367	232.0	1
C	60357	WOST	CP	16	TV		MAYAGUEZ	PR	N	18-18-51	067-11-24	9.550	337.6	385	249.3	1.32
C	64864	W10BG	LIC	10	CA		MAYAGUEZ	PR	D	18-12-25	067-08-48	3.000		52	164.8	12.77

**du Treil, Lundin, and Rackley**

Coordinates: 18-19-06 067-10-42 Frequency Range: - Range: 16

Date: 6/30/2006

**CDBS FM Inquiry List**

Page: 1

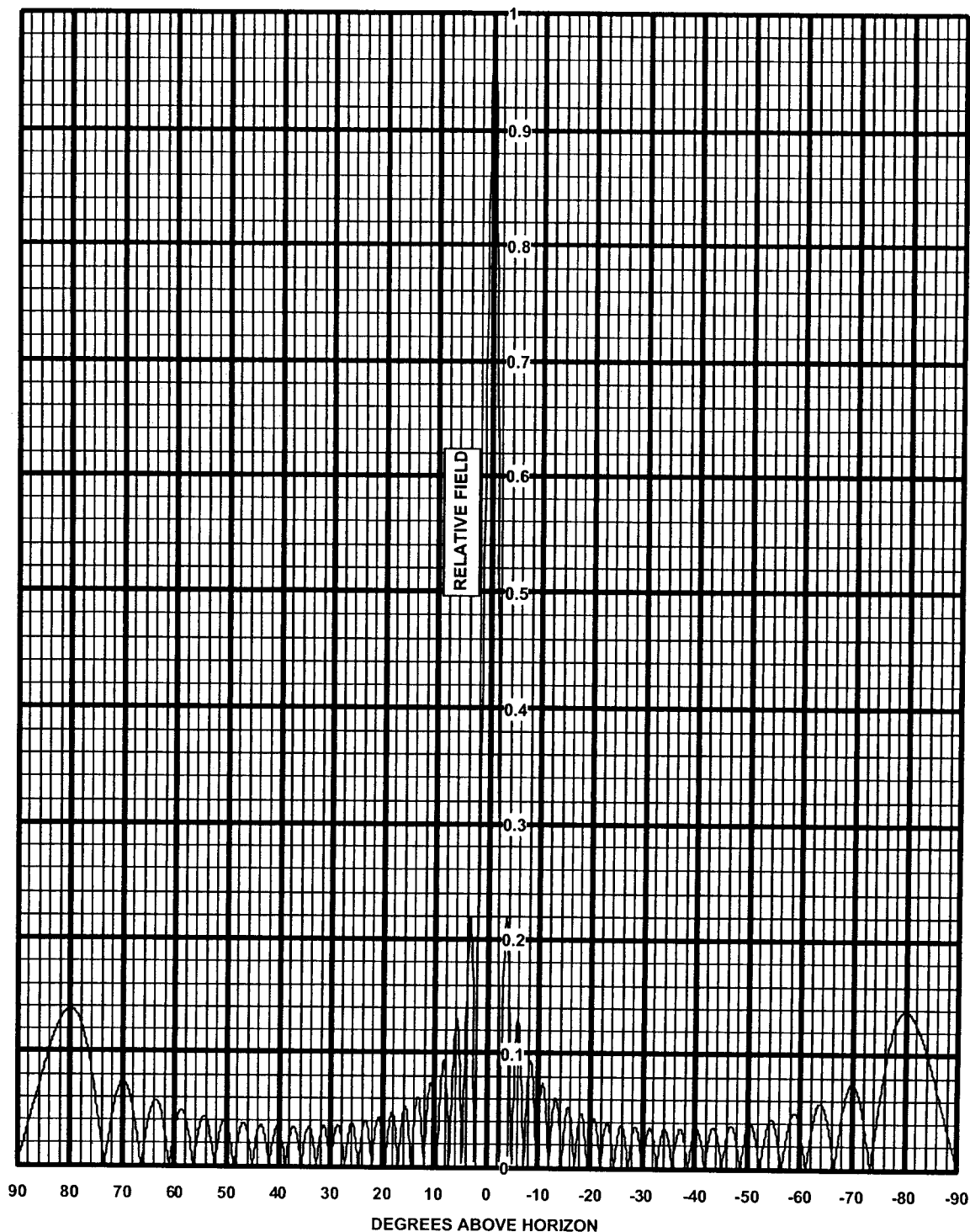
Rec Type	Fac Id	Call	Status	Chan	Svc Class	Class	City	St	DA	Latitude	Longitude	ERP (kW)	HAAT (m)	RCAMSL (m)	Bear	Dist. (km)
C	61579	WZET	LIC	221	FM	A	HORMIGUEROS	PR	N	18-19-06	067-10-42	2.950	337.0	400.0	0.0	0.0
C	127974	WIDI-FM	LIC	252	FB	D	MAYAGUEZ	PR	N	18-19-05	067-10-49	0.250		450.0	261.5	0.2
C	3251	WFDI	LIC	288	FM	A	AGUADA	PR	N	18-18-57	067-10-54	3.000	304.0	357.0	231.7	0.5
C	10053	WVID	LIC	212	FM	B	ANASCO	PR	N	18-19-00	067-10-59	14.500	304.0	378.0	249.6	0.5
C	42888	W208AE	LIC	208	FX	D	ANASCO	PR	D	18-18-54	067-10-58	0.012		355.0	231.7	0.6
C	13952	WTPM	USE	225	FA	B	AGUADILLA	PR		18-18-52	067-10-58	0.000			227.4	0.6
C	13952	WTPM	LIC	225	FM	B	AGUADILLA	PR	N	18-18-47	067-11-06	50.000	368.0	343.0	230.2	0.9
C	140950	NEW	APP	283	FX	D	ANASCO	PR	D	18-19-41	067-10-50	0.010		277.0	347.7	1.1
C	69434	WRUO	LIC	202	FM	A	MAYAGUEZ	PR	D	18-19-31	067-10-13	2.000	306.0	354.0	47.7	1.2
C	3251	WFDI	USE	288	FA	A	AGUADA	PR		18-19-31	067-10-13	0.000			47.7	1.2
C	8153	WIOB	LIC	248	FM	B	MAYAGUEZ	PR	N	18-19-33	067-10-13	50.000	302.0	360.0	45.5	1.2
C	8153	WIOB	USE	248	FA	B	MAYAGUEZ	PR		18-19-33	067-10-13	0.000			45.5	1.2
C	2876	WIVA-FM	USE	262	FA	B	AGUADILLA	PR		18-18-49	067-11-25	0.000			247.4	1.4
C	121991	WZAR-F	LIC	270	FB	D	MAYAGUEZ	PR	D	18-18-49	067-11-25	0.099			247.4	1.4
C	164348	WCMN-F	CP	297	FB	D	MAYAGUEZ	PR	C	18-18-49	067-11-25	0.250		360.0	247.4	1.4
C	123286	NEW	APP	208	FM	A	MAYAGUEZ	PR	D	18-18-51	067-11-30	3.000	336.0	415.0	251.8	1.5
C	29219	WKSA-F	LIC	268	FM	B	ISABELA	PR	N	18-26-36	067-08-50	50.000	129.0	226.0	13.3	14.2
C	29219	WKSA-F	USE	268	FA	B	ISABELA	PR		18-26-36	067-08-50	0.000			13.3	14.2
C	147257	NEW	APP	292	FX	D	AGUADILLA	PR	C	18-26-40	067-09-03	0.215			11.7	14.3
C	147279	NEW	APP	294	FX	D	AGUADILLA	PR	N	18-26-37	067-08-49	0.010		196.0	13.4	14.3
C	143476	NEW	APP	294	FX	D	AGUADILLA	PR	C	18-26-40	067-09-03	0.215			11.7	14.3
C	155999	NEW	APP	298	FX	D	AQUADILLA	PR	C	18-24-59.	067-04-39.	0.025		260.0	44.2	15.2
C	156002	NEW	APP	296	FX	D	AGUADA	PR	C	18-19-21.	067-19-35	0.010		330.0	271.8	15.7
C	61579	WZET	USE	221	FA	A	HORMIGUEROS	PR		18-11-15	067-07-04	0.000			156.3	15.8



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COMPUTED ELEVATION PATTERN



Customer: WVEO-DT

Channel: 17

Model: JA/LS-24/17 SHP  
Description: UHF Slot Antenna  
-0 ° Beam Tilt, 0% Null Fill