

TECHNICAL STATEMENT
MINOR MODIFICATION OF APPLICATION
CLASS A TV STATION W10BG
FACILITY ID 64864
MAYAGUEZ, PUERTO RICO

Environmental Considerations

The proposed TV facility will be side-mounted on an existing self-supporting structure of FM station WIOB. The antenna will be located 32 meters above ground level with a height above mean sea level of 367 meters. A maximum radiated power (ERP) of 2.96 kW horizontally polarized transmitting antenna is proposed.

With respect to the potential for human exposure to radio frequency (RF) energy, calculations prepared in accordance with FCC Bulletin OET-65.* Indicate that the proposal will not result in human exposure to RF energy at ground level in excess of FCC standards. The calculation at 2-m above ground was made using the following formula from the OET-65 document:

$$S = \frac{(33.4)F^2P}{R^2}$$

where, S = power density in $\mu\text{W}/\text{cm}^2$, F = relative field factor at the angle to the calculation point, P = the total effective radiated power relative to a dipole in watts, and R = distance from the antenna radiation center to the calculation point in meters. Based on a relative field factor of 0.5 for any depression angle equal or greater than 30 degrees below horizon, a total effective radiated power of 2960 watts (horizontal polarization) and an antenna radiation center height above ground of 32 m, the calculated power density will not exceed $27.5 \mu\text{W}/\text{cm}^2$. Therefore, the calculated RF exposure at 2 m above ground will not exceed 13.7 % of the limit of $200 \mu\text{W}/\text{cm}^2$ for channel 10 for the general population and uncontrolled environments. Therefore, the proposal complies with the FCC limits for human exposure to RF energy.

The applicant, in coordination with other users of the transmission facility, shall reduce power or cease operation as necessary to prevent RF exposure above the FCC recommended limits.

* Federal Communications Commission OET Bulletin No. 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01, August 1997).

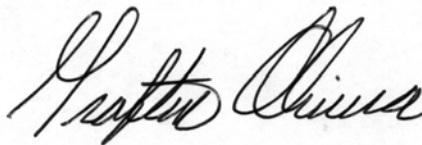
Quiet Zone Notification

As required by FCC rules pertaining to radio Quiet Zones, Section 73.1030(a), the National Astronomy and Ionosphere Center (NAIC) in Arecibo, Puerto Rico is being notified of the proposed modification. A copy of the notification letter to the Arecibo Observatory of the proposed facility is included herein.

OET-69 Interference Study

An OET-69 interference study, based on a 1 km cell size and 0.5 km terrain distance increment along with a full service mask has been performed; copy of the interference study is attached. As no change in channel, antenna height or site is proposed, the modified facility proposed will have the required contour overlap with the existing construction permit. The proposed change pertains to an improved antenna pattern and greater coverage area. The proposed facility does not cause prohibited interference to any pertinent station

For the reasons stated above, it is believed that the proposed facility is in compliance with applicable FCC Rules and Regulations.



Grafton Olivera, P.E.
du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237-6019

(941) 329-6001

May 13, 2015



201 Fletcher Ave.
Sarasota, FL 34237-6019
941-329-6000
941-329-6031 FAX

Grafton Olivera
Direct Dial 941-329-6001
e-mail: grifton@dlr.com

May 13, 2015

Via email (prcz@naic.edu)

Angel M. Vázquez, Spectrum Manager
National Astronomy and Ionosphere Center
Arecibo Observatory
HC3 Box 53995
Arecibo, PR 00612

Gentleman:

On behalf of our client, Telecinco, Inc., holder of a CP to construct a digital facility for Class "A" TV Station W10BG, Mayaguez, Puerto Rico, in accordance with Section 73.1030 of the FCC Rules, we hereby notify you of the proposed modification of this construction permit. The particulars of the proposal are as follows:

Proposed Facility:

Geographical coordinates of antenna location (NAD27): 18-19-33 / 67-10-13
Antenna height (Scala CL-713 Custom Array): 32 m AGL; 367 m AMSL
Antenna Gain: see attached antenna pattern
Antenna Orientation: see attached antenna pattern
Operating channel: 10 (192 -198 MHz)
Type of emission: 6M00D7W
Effective isotropic radiated power: 4.854 kW – Horizontal Polarization

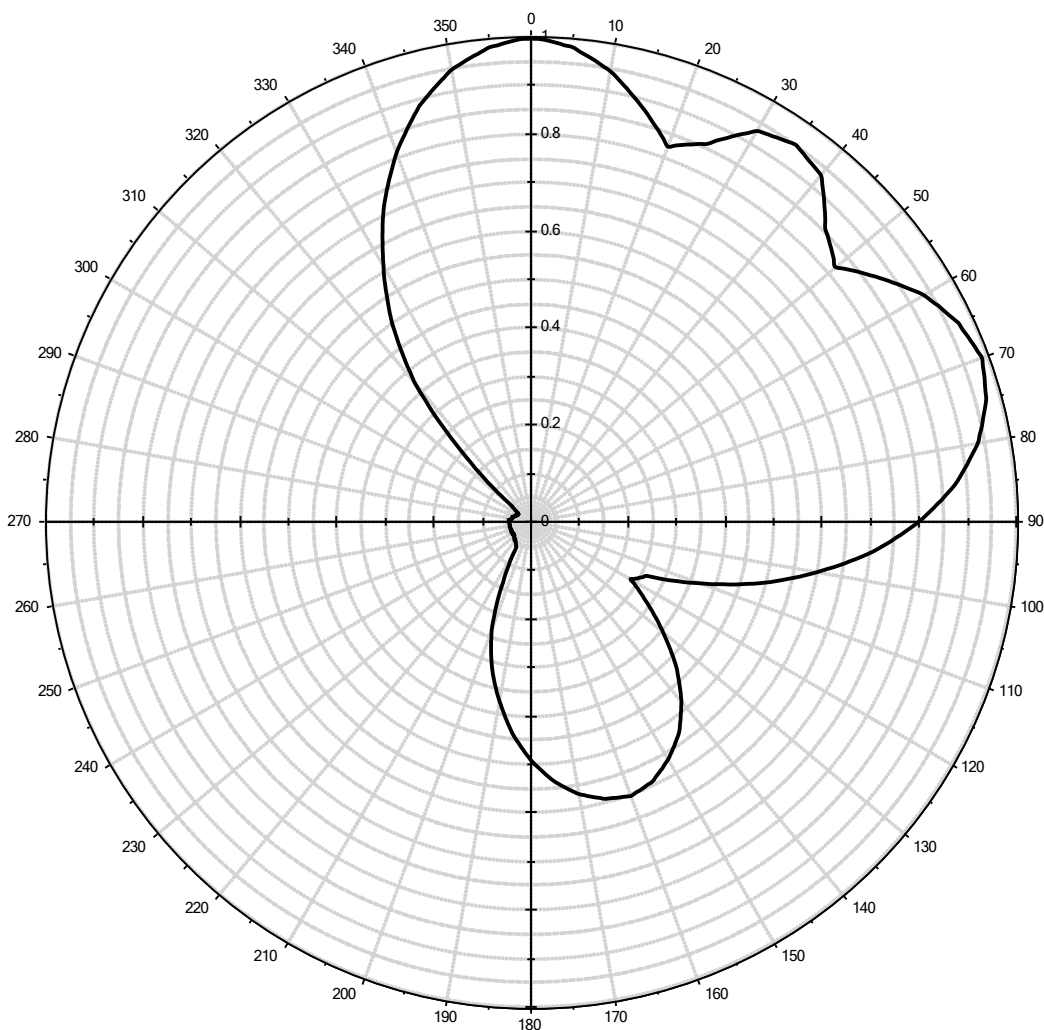
Please review this proposal and let us know your findings. Please feel free to communicate via email (<mailto:grifton@dlr.com>), telefax (941-329-6030) or regular mail.

Very truly yours,

Grafton Olivera, P.E.



Antenna ID: 800421



Note: display reflects rotation of 0.00°

0°	60° 0.935	120° 0.237	180° 0.491	240° 0.045	300° 0.031	1° 0.996	7° 0.967
10° 0.944	70° 0.989	130° 0.356	190° 0.375	250° 0.045	310° 0.053	2° 0.993	8° 0.959
20° 0.824	80° 0.935	140° 0.482	200° 0.237	260° 0.045	320° 0.369	3° 0.989	9° 0.951
30° 0.930	90° 0.799	150° 0.565	210° 0.061	270° 0.045	330° 0.609	4° 0.985	11° 0.932
40° 0.930	100° 0.598	160° 0.601	220° 0.049	280° 0.040	340° 0.810	5° 0.983	
50° 0.818	110° 0.369	170° 0.570	230° 0.045	290° 0.035	350° 0.947	6° 0.974	

Antenna Make: Scala

Standard Pattern:

Antenna Model: Composite

Last Change Date:

Percent allowed new interference: 0.500
Percent allowed new interference to non Class A LPTV: 2.000
TW Census data selected 2000
Data Base Selected
/export/home/cdbb/pt_tvdb.sff
TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 05-12-2015 Time: 17:11:17

Record Selected for Analysis

W10BGDAF USERRECORD-01 XXXX XX US
Channel 10 ERP 2.96 kW HAAT 312. m RCAMSL 00367 m FULL SERVICE MASK
Latitude 018-19-33 Longitude 0067-10-13
Status APP Zone 2 Border Site number: 01
Dir Antenna Make usr Model 000000000W10BG Beam tilt N Ref Azimuth 0.
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 1.0 km/side

Distance Increments for Longley-Rice Analysis 0.50 km

Facility (site # 01) meets maximum height/power limits

Site number	1		
Azimuth	ERP	HAAT	48.0 dBu F(50,90)
(Deg)	(kW)	(m)	(km)
0.0	2.960	356.7	65.898
45.0	2.179	250.1	56.859
90.0	1.894	232.7	54.852
135.0	1.160	257.3	52.790
180.0	0.599	364.2	54.528
225.0	0.007	359.9	23.294
270.0	0.006	330.5	21.798
315.0	0.139	348.4	42.719

Contour Overlap to Proposed Station

Station			
WSUR-DT	9 PONCE	PR BMPCDT20091113ADM	causes

Station			
WSUR-DT	9 PONCE	PR BLCDT20090616ACM	causes

Station		
W10BG	10 MAYAGUEZ	PR BLTVA20040915AAQ

Station inside contour of Digital LPTV station
W10BGDAF 10 XXXX XX USERRECORD01

Contour Overlap Evaluation to Proposed Station Complete

Checks to Site Number 01

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
10	W10BGDAF	XXXX XX	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	W09AT	FAJARDO PR	159.9	LIC	BLTTV -4217
09	WSUR-DT	PONCE PR	65.0	APP	BMPCDT -20091113ADM
09	WSUR-DT	PONCE PR	65.0	LIC	BLCDDT -20090616ACM
10	W10CZ-D	SAN JUAN PR	103.5	APP	BDFCDVL -20081222ABB
11	WLII-DT	CAGUAS PR	111.7	LIC	BLANK -0000001042

%%%

Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application Ref. No.
09	W09AT	FAJARDO PR	BLTTV -4217

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	WSUR-DT	PONCE PR	99.2	APP	BMPCDT -20091113ADM
09	WSUR-DT	PONCE PR	99.2	LIC	BLCDDT -20090616ACM
10	W10BGDAF	XXXX XX	159.9	APP	USERRECORD-01

Proposed station is beyond the site to
nearest cell evaluation distance

#####

Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application Ref. No.
09	WSUR-DT	PONCE PR	BMPCDT -20091113ADM

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
10	W10BGDAF	XXXX XX	65.0	APP	USERRECORD-01

Total scenarios = 1

Result key: 1
 Scenario 1 Affected station 2
 Before Analysis

Results for: 9A PR PONCE BMPCDT 20091113ADM APP
 HAAT 857.0 m, ATV ERP 43.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	3806722	57697.9
not affected by terrain losses	3749312	57212.0
lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	0	0.0

Potential Interfering Stations Included in above Scenario 1

After Analysis

Results for: 9A PR PONCE BMPCDT 20091113ADM APP
 HAAT 857.0 m, ATV ERP 43.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	3806722	57697.9
not affected by terrain losses	3749312	57212.0
lost to NTSC IX	0	0.0
lost to additional IX by ATV	7490	11.8
lost to ATV IX only	7490	11.8
lost to all IX	7490	11.8

Potential Interfering Stations Included in above Scenario 1

10A XX XXXX USERRECORD01 APP

Percent new IX = 0.1998%

Worst case new IX 0.1998% Scenario 1

#####

Analysis of Interference to Affected Station 3

Analysis of current record

Channel	Call	City/State	Application Ref. No.
09	WSUR-DT	PONCE PR	BLCDT -20090616ACM

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
10	W10BGDAF	XXXX XX	65.0	APP	USERRECORD-01

Total scenarios = 1

Result key: 2
 Scenario 1 Affected station 3
 Before Analysis

Results for: 9A PR PONCE BLC DT 20090616ACM LIC
 HAAT 857.0 m, ATV ERP 21.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	3799008	50981.0
not affected by terrain losses	3725418	50533.5
lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	0	0.0

Potential Interfering Stations Included in above Scenario 1

After Analysis

Results for: 9A PR PONCE BLC DT 20090616ACM LIC
 HAAT 857.0 m, ATV ERP 21.6 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	3799008	50981.0
not affected by terrain losses	3725418	50533.5
lost to NTSC IX	0	0.0
lost to additional IX by ATV	18027	19.7
lost to ATV IX only	18027	19.7
lost to all IX	18027	19.7

Potential Interfering Stations Included in above Scenario 1

10A XX XXXX USERRECORD01 APP

Percent new IX = 0.4839%

Worst case new IX 0.4839% Scenario 1

#####

Analysis of Interference to Affected Station 4

Analysis of current record

Channel	Call	City/State	Application Ref. No.
10	W10CZ-D	SAN JUAN PR	BDFCDVL -20081222ABB

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	WSUR-DT	PONCE PR	45.9	APP	BMPCDT -20091113ADM
09	WSUR-DT	PONCE PR	45.9	LIC	BLC DT -20090616ACM
10	W10BG	MAYAGUEZ PR	102.3	LIC	BLTVA -20040915AAQ

10	W10BG	MAYAGUEZ PR	103.5	CP MOD	BMPDVA	-20120611ACD
11	WLII-DT	CAGUAS PR	11.9	LIC	BLANK	-0000001042
10	W10BGDAF	XXXX XX	103.5	APP	USERRECORD-01	

Proposal causes no interference

#####

Analysis of Interference to Affected Station 5

Analysis of current record

Channel	Call	City/State	Application Ref. No.
11	WLII-DT	CAGUAS PR	BLANK -0000001042

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
12	WOLE-DT	AGUADILLA PR	93.1	LIC	BLCDT -20091013ADZ
10	W10BGDAF	XXXX XX	111.7	APP	USERRECORD-01

Proposal causes no interference

#####

Analysis of Interference to Affected Station 6

Analysis of current record

Channel	Call	City/State	Application Ref. No.
10	W10BGDAF	XXXX XX	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
09	WSUR-DT	PONCE PR	65.0	APP	BMPCDT -20091113ADM
09	WSUR-DT	PONCE PR	65.0	LIC	BLCDT -20090616ACM
10	W10CZ-D	SAN JUAN PR	103.5	APP	BDFCDVL -20081222ABB
11	WLII-DT	CAGUAS PR	111.7	LIC	BLANK -0000001042

Total scenarios = 5

Result key: 3

Scenario 1 Affected station 6

Before Analysis

Results for: 10A XX XXXX USERRECORD01 APP

HAAT	312.0 m, ATV ERP	3.0 kW
	POPULATION	AREA (sq km)
within Noise Limited Contour	877183	7310.4
not affected by terrain losses	825556	7194.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	44645	233.3
lost to ATV IX only	44645	233.3
lost to all IX	44645	233.3

Potential Interfering Stations Included in above Scenario 1

9A PR PONCE BLCDT 20090616ACM LIC

Result key: 4
Scenario 2 Affected station 6
Before Analysis

Results for: 10A XX XXXX USERRECORD01 APP

HAAT 312.0 m, ATV ERP 3.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	877183	7310.4
not affected by terrain losses	825556	7194.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	72037	400.6
lost to ATV IX only	72037	400.6
lost to all IX	72037	400.6

Potential Interfering Stations Included in above Scenario 2

9A PR PONCE	BMPCDT	20091113ADM	APP
10A PR SAN JUAN	BDFCDVL	20081222ABB	APP

Result key: 5
Scenario 3 Affected station 6
Before Analysis

Results for: 10A XX XXXX USERRECORD01 APP

HAAT 312.0 m, ATV ERP 3.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	877183	7310.4
not affected by terrain losses	825556	7194.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	72037	399.6
lost to ATV IX only	72037	399.6
lost to all IX	72037	399.6

Potential Interfering Stations Included in above Scenario 3

9A PR PONCE	BMPCDT	20091113ADM	APP
-------------	--------	-------------	-----

Result key: 6
Scenario 4 Affected station 6
Before Analysis

Results for: 10A XX XXXX USERRECORD01 APP

HAAT 312.0 m, ATV ERP 3.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	877183	7310.4
not affected by terrain losses	825556	7194.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	44678	236.2
lost to ATV IX only	44678	236.2
lost to all IX	44678	236.2

Potential Interfering Stations Included in above Scenario 4

9A PR PONCE	BLCDT	20090616ACM	LIC
10A PR SAN JUAN	BDFCDVL	20081222ABB	APP

Result key: 7
Scenario 5 Affected station 6
Before Analysis

Results for: 10A XX XXXX USERRECORD01 APP

HAAT 312.0 m, ATV ERP 3.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	877183	7310.4
not affected by terrain losses	825556	7194.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	44645	233.3
lost to ATV IX only	44645	233.3
lost to all IX	44645	233.3

Potential Interfering Stations Included in above Scenario 5

9A PR PONCE BLCDT 20090616ACM LIC

#####

FINISHED FINISHED FINISHED FINISHED FINISHED FINISHED