

**Comprehensive Engineering Exhibit  
Minor Modification of BNPFT-20130815AAF  
Facility ID No. 140144, W286CQ  
June 2015**

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This exhibit is for a Minor Modification of translator W286CQ, permit BNPFT-20130815AAF. The modification is seeking change antenna location and type.

The proposed antenna is to be mounted on ASR 1034035 at 169 meters above ground. Below as **Figure 1** is an overlap and spacing study from which it can be determined that this proposal is within the protected contour of **second** adjacent channel station WRBQ-FM. The station is to be fill-in for WCTQ, **Figure 2** demonstrates contour compliance for fill-in service.

**73.1204 Compliance**

We will demonstrate that a lack of population and/or other factors allow this proposal to be compliant with 74.1204. The process commonly called "Living Way", allows for the use of D/U Analysis, also known as "signal strength ratio methodology" to be utilized to demonstrate compliance. In this instant case the facility to be protected is on a second or third adjacent channel and is to be afforded protection from signals 40 dB stronger

**Concerning WRBQ-FM;** In **Figure 2** a map showing the predicted 67.4 dBu signal contour of the protected facility at the proposed translator antenna location is given. This proposal can only cause predicted interference to the protected facility by having a signal exceeding 107.4 dBu in a habitable/populated area. Utilizing the line of sight equation shown in **Figure 3** which considers the vertical elevation pattern of the proposed antenna, it has been determined that a 107.4 dBu signal developed by 250 watts, as proposed, emitted by the proposed antenna mounted 169 meters above ground, will not reach ground level. With examination of the images in **Figure 4** it can be determined that no habitable space extends above this height within the confines of this contour. Thus the provisions of the rules section concerning prohibited overlap will not apply as it has been demonstrated that no actual interference will occur due to a lack of population and other factors as applied in this instant proposal.

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**RF Radiation Statement**

The proposed facilities were evaluated in terms of potential radio frequency radiation exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation."

The proposed antenna system is an ERI 100A-2F-HW, 2- element half-wave antenna mounted 169 meters above ground. As this element type is not available in the FM Model program, and it has been set to calculate values for a Ring-Stub type of antenna element array operated with a combined effective radiated power of 0.25 Kilowatts in vertical and horizontal. At 2 meters above the surface, at 263.2 meters from the base of the tower, this proposal will contribute worst case, 0.07 microwatts per square centimeter, or 0.007 percent of the allowable ANSI limit for controlled exposure, and 0.04 percent of the allowable limit for uncontrolled exposure. This figure is less than 5% of the applicable FCC exposure limit at all locations extending out from the base of the tower. Section 1.1307(b)(3) excludes applications when the calculated level is predicted to be less than 5% of the applicable exposure limit. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

**Figure 1. Overlap and Spacing Study**

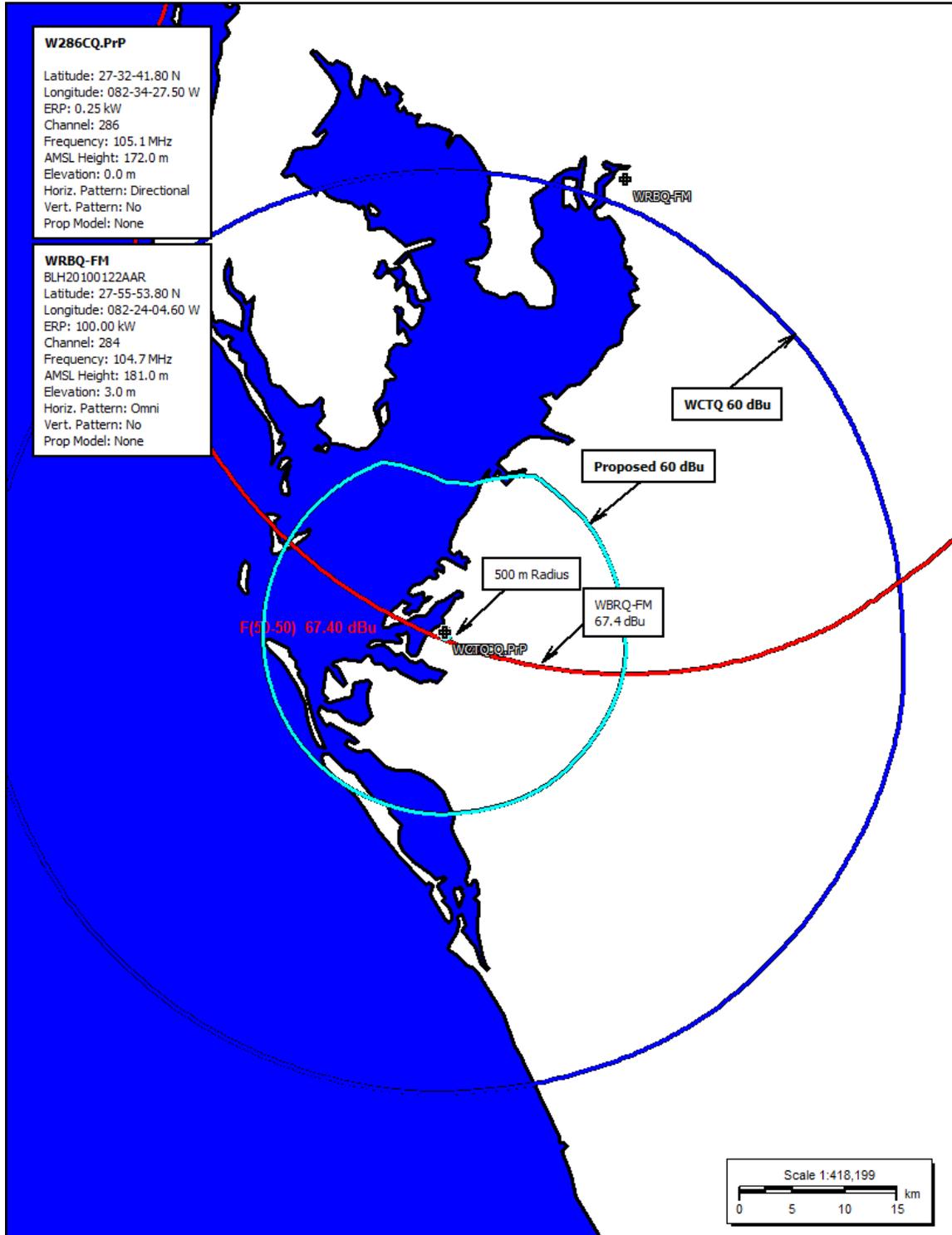
W286CQ Mod of CP to ASR 1034035 169m AGL  
Citicasters Licenses, L.p.

REFERENCE CH# 286D - 105.1 MHz, Pwr= 0.25 kw DA, HAAT= 97.4 M, COR= 172 M DISPLAY DATES  
27 32 41.8 N. DATA 07-06-15  
82 34 27.5 W. SEARCH 07-07-15  
Average Protected F(50-50)= 12.7 km  
Standard Directional

CH	CALL	TYPE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	=IN* (Overlap in km)	=OUT* (Overlap in km)
286D	W286CQ Sarasota	CP	_C_ FL	156.5 336.6	25.30 BNPFT20130815AAF	27 20 08.2 82 28 19.5	0.250 97	44.3 104	12.9 Citicasters Licenses, L.p.	-36.0*	-41.8*
284C1	WRBQ-FM Tampa	LIC	NC_ FL	21.6 201.6	46.11 BLH20100122AAR	27 55 53.8 82 24 04.6	100.000 174	7.8 181	62.0 Wxtu License Limited Partn	25.8	-16.5*
286C	WDMX-FM Orlando	LIC	_C_ FL	51.6 232.3	186.77 BMLH20030924ABI	28 34 51.0 81 04 32.0	100.000 487	189.7 500	85.8 Cbs Radio Stations Inc.	-15.8*	58.5
288C1	MDUV New Port Richey	LIC	_CX FL	345.0 164.9	73.15 BLH20090715AHU	28 10 56.0 82 46 06.0	33.000 458	8.7 461	71.8 Cox Radio, Inc.	51.9	0.8
286L1	WMZT-LP Tampa	CP	_ FL	6.6 186.6	53.48 BMPL20150311ABP	28 01 27.8 82 30 42.7	0.023 61	68	Latino Heritage Organizati	21.7	6.4
287A	WZSP Nocatee	LIC	ZCN FL	122.9 303.2	73.67 BLH19980901KA	27 11 01.0 81 56 57.0	4.100 122	43.1 131	28.1 Solmart Media, LLC	14.2	21.0
No DA Tabulations submitted with application Amended August 12, 1998 with DA tabulations.											
285A	WCVU Solana	LIC	NCX FL	144.3 324.6	88.86 BLH20120525AAE	26 53 37.5 82 03 02.7	6.000 97	43.3 98	28.0 Citicasters Licenses, Inc.	28.6	35.5
233D	W233AV Gulfport	LIC	_C_ FL	331.1 151.0	38.39 BLFT20130128ACC	27 50 51.8 82 45 48.9	0.250 185	0.0 188	0.0 Citicasters Licenses, Inc.	9.5R	28.9M
284D	W284CJ Venice	CP	_C_ FL	161.4 341.5	54.28 BNPFT20130826ABQ	27 04 51.0 82 23 55.0	0.019 74	0.3 77	6.0 Calvary Chapel Church, Inc	37.0	47.2

Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
Contour distances are on direct line to and from reference station. Reference zone= , Co to 3rd adjacent.  
All separation margins (if shown) include rounding. Call signs with strikeout need not be protected.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, = Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
\*\*=affixed to 'IN' or 'OUT' values = site inside restricted contour.

Figure 2. Contour Map



**Figure 3. Line of Sight Signal Table**

<b>Proposed Antenna:</b>	ERI A 100-2HW 2-bay half wave	
<b>Proposed Power:</b>	0.25	kW
<b>Antenna Height AGL:</b>	169	meters
<b>Interference Contour:</b>	107.4	dBu f(50:10)
<b>Artificial Rcv Antenna Height:</b>	2	meters
<b>Distance (Free Space) Equation:</b>	$= (10^{((106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]) / 20)}) * 1000$	
<b>Field Strength (dBu) Equation</b>	$= 106.92 - (20 * (\text{LOG}_{10}[\text{DistMeters} / 1000])) + [\text{ERP in dBk}]$	

Fill in "yellow" cells

Depression				Distance				
Angle	Antenna			from Ant.	Distance	Field Strength	Distance	Field Strength
Below	Relative	ERP	ERP	to Interf	from Ant. to	in dBu @	from Ant.	in dBu @
Horizon	Field	in kW	in dBk	Contour	Artificial Plane	Artificial Plane	to Ground Level	Ground Level
0°	1.000	0.250	-6.02	473.12 m	infinite	---	infinite	---
-5°	0.984	0.242	-6.16	465.55 m	1916.11 m	95.11 dBu	1939.06 m	95.01 dBu
-10°	0.938	0.220	-6.58	443.79 m	961.71 m	100.68 dBu	973.23 m	100.58 dBu
-15°	0.865	0.187	-7.28	409.25 m	645.24 m	103.45 dBu	652.97 m	103.34 dBu
-20°	0.772	0.149	-8.27	365.25 m	488.28 m	104.88 dBu	494.12 m	104.78 dBu
-25°	0.665	0.111	-9.56	314.62 m	395.16 m	105.42 dBu	399.89 m	105.32 dBu
-30°	0.553	0.076	-11.17	261.63 m	334.00 m	105.28 dBu	338.00 m	105.18 dBu
-35°	0.442	0.049	-13.11	209.12 m	291.16 m	104.53 dBu	294.64 m	104.42 dBu
-40°	0.339	0.029	-15.42	160.39 m	259.81 m	103.21 dBu	262.92 m	103.11 dBu
-45°	0.248	0.015	-18.13	117.33 m	236.17 m	101.32 dBu	239.00 m	101.22 dBu
-50°	0.172	0.007	-21.31	81.38 m	218.00 m	98.84 dBu	220.61 m	98.74 dBu
-55°	0.112	0.003	-25.04	52.99 m	203.87 m	95.70 dBu	206.31 m	95.59 dBu
-60°	0.068	0.001	-29.37	32.17 m	192.83 m	91.85 dBu	195.14 m	91.74 dBu
-65°	0.037	0.000	-34.66	17.51 m	184.26 m	86.95 dBu	186.47 m	86.85 dBu
-70°	0.018	0.000	-40.92	8.52 m	177.72 m	81.01 dBu	179.85 m	80.91 dBu
-75°	0.007	0.000	-49.12	3.31 m	172.89 m	73.05 dBu	174.96 m	72.94 dBu
-80°	0.002	0.000	-60.00	0.95 m	169.58 m	62.33 dBu	171.61 m	62.23 dBu
-85°	0.001	0.000	-66.02	0.47 m	167.64 m	56.41 dBu	169.65 m	56.31 dBu
-90°	0.001	0.000	-66.02	0.47 m	167.00 m	56.45 dBu	169.00 m	56.34 dBu

**Figure 4. Image of Antenna Location**

