

Comprehensive Engineering Exhibit

Minor Modification of BPFT-20140923AAB

W246BO Facility No. 146621

This is one of two applications of a coordinated contingent group of minor modification applications involving stations W246BT and W246BO. This exhibit is for the minor modification application of translator permit BPFT-20140923AAB seeking to change the antenna location, type, and elevation, the permit had previously requested is a change of channel, power, and to become a fill-in facility for station WJRR.

The directional antenna is to be mounted on an antenna structure Identified by registration number 1203414 at 140 meters above ground level with a maximum 250 watts effective radiated power, utilizing the antenna pattern of Figure 0 as attached.

Below as Figure 1 is an overlap and spacing study, utilizing the antenna pattern of Figure 0, from which it can be determined that this proposal is within the protected contour of third adjacent channel station WPCV and second adjacent channel station WDBO-FM. The study reflects W246BT(prp) as modified in the contingent filed application and that W246BT(prp) application is to be considered as filed after this instant application in relation to prohibited contour overlap with that proposed facility.

Section 74.1204(d) states that *"The provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water. In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable."*

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"¹, allows for the use of U/D Analysis, also known as "signal strength ratio methodology" to be utilized. In this instant case the facilities to be protected are second adjacent and are to be afforded protection from signals 40 dB stronger than they present in the location of the proposed antenna location.

Figure 2 is a map showing the predicted signal contours of WDBO-FM and WPCV more than 500 meters from the proposed antenna location utilizing the FCC F50:50 curve. WDBO-FM has a stronger signal in the area of this proposed location than WPCV does. Thus, protection of the WPCV 68.5 dBu contour from a signal produced by this proposal exceeding 108.5 is required, and by protecting this "weaker" signal as compared to WDBO-FM, the protection requirements are demonstrated.

The antenna is located 140 meters above ground level upon the support structure shown in Figure 3. Utilizing the line of sight equation² it has been determined that a 108.5 dBu signal developed

¹ As recently described in FCC 08-242 in connection with BPFT-19981001TA

² $\text{ReachDistMeters} = 106.92 - (20 * (\text{LOG10}[\text{DistMeters}/1000])) + [\text{ERPin dBk}]$

by 250 watts, emitted by the proposed antenna, does not reach the habitable space, as demonstrated in Figure 3.

A map of the proposed and licensed 60 dBu contours is given in Figure 5, demonstrating compliance with the contour overlap requirement for minor change applications. Also made part of Figure 6 is the 75 dBu contour of the primary station (for map scale the smaller 75 dBu contour is shown in place of the larger 60 contour), establishing compliance with fill-in requirements.

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 a Nicom BKG77, 2 bay, half-wave spaced antenna mounted 140 meters above ground. As this element type is not modeled in the FM Model program, it was set to calculate values for the worst case "ring stub" type of antenna element in the array, operated with an effective radiated power of 0.250 Kilowatts in both the horizontal and vertical planes. At 2 meters above the surface, at 38 meters from the base of the tower, this proposal will contribute worst case, 0.53 microwatts per square centimeter, or 0.05 percent of the allowable ANSI limit for controlled exposure, and 0.25 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 0. Antenna Pattern

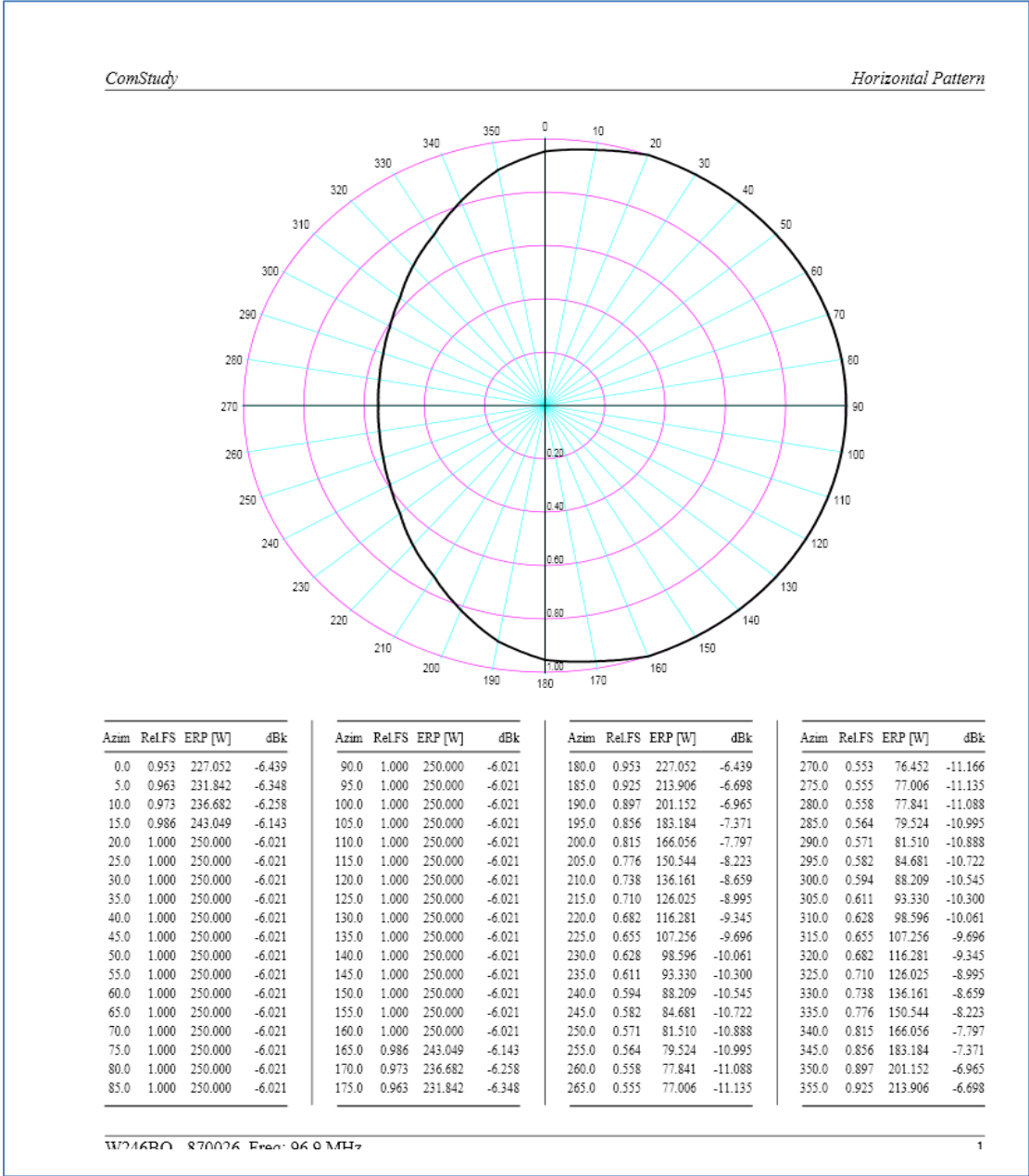


Figure 1. Overlap and Spacing Study

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W246BO to ASR 1203414 @ 140m

Clear Channel Broadcasting Licenses, Inc.

REFERENCE CH# 245D - 96.9 MHz, Pwr= 0.25 kW DA, HAAT= 144.7 M, COR= 172.9 M DISPLAY DATES
28 36 21.6 N. Average Protected F(50-50)= 15.6 km DATA 03-12-15
81 27 24.6 W. Standard Directional SEARCH 03-12-15

CH CITY	CALL	TYPE STATE	ANT FL	AZI. -<--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
245D Deltona	W246BO!	CP	C	90.6	3.79	28 36 20.2	0.165	45.8	13.6	-57.9	-61.7
			FL	270.7	BPFT20140923AAB	81 25 05.0		169	Clear Channel Broadcasting		
243C Orlando	WDBO-FM	LIC	NCY	95.9	39.58	28 34 07.0	100.000	12.1	83.3	11.8	-44.8*<
			FL	276.1	BLH20011219AAC	81 03 16.0	454	463	Cox Radio, Inc.		
248C0 Winter Haven	WPCV	LIC	CN	189.8	53.94	28 07 35.0	100.000	10.5	74.0	29.3	-21.1*<
			FL	9.8	BLH19890908KA	81 33 03.0	310	340	Hall Communications, Inc.		
246D Deltona	W246BO!	LIC	C	40.4	16.94	28 43 20.0	0.013	9.2	6.6	-8.3	-13.6
			FL	220.4	BLFT20081105ADW	81 20 39.0	120	133	Clear Channel Broadcasting		
246D Clermont	W246BT	LIC	C	247.2	15.21	28 33 11.0	0.027	9.0	6.4	-5.1<	-7.5*<
			FL	67.2	BLFT20071123AAE	81 36 01.0	80	111	Clear Channel Broadcasting		
246D Clermont	W246BT-PRP	CP	DC	247.2	15.21	28 33 11.0	0.027	3.2	2.2	0.8	-3.4*<
			FL	67.2	BPFT20140923AAC-pRp81	81 36 01.0		111	Clear Channel Broadcasting		
<u>Contingent modification of permit to be considered second filed, accepting overlap.</u>											
245C0 Jacksonville	WJGL	LIC	C	356.8	185.40	30 16 34.0	100.000	172.9	73.0	-2.6<	62.5
			FL	176.8	BMLH20130124AAR	81 33 53.0	309	315	Cox Radio, Inc.		
245C Fort Myers	WINK-FM	LIC	C	188.6	202.36	26 48 01.0	100.000	187.4	83.8	0.7	70.8
			FL	8.5	BLH20060727AAL	81 45 48.0	457	465	Fort Myers Broadcasting Co		
246D Kissimmee	W246CK	CP	C	168.8	30.53	28 20 09.0	0.038	8.6	6.1	6.5	1.3
			FL	348.8	BNPFT20130318ABJ	81 23 45.0	60	79	Clear Channel Broadcasting		
245D Leesburg	W245AZ	LIC	C	299.8	50.05	28 49 45.0	0.027	23.4	7.0	14.6	2.6
			FL	119.6	BLFT20090224AAD	81 54 08.0	87	110	Central Florida Educationa		
299C Mount Dora	WMGF	LIC	C	21.1	37.26	28 55 10.1	100.000	0.0	0.0	28.5R	8.8M
			FL	201.2	BLH20081201AGU	81 19 07.4	484	494	Clear Channel Broadcasting		
246L1 Eustis	NEW	CP		318.6	34.69	28 50 24.6	0.100			14.0	10.1
			FL	138.5	BNPL20131114BOW	81 41 33.2	30	56	On This Rock Communication		
246L1 Deltona	WEDI-LP	CP		36.4	43.79	28 55 24.1	0.100			19.2	13.7
			FL	216.5	BNPL20131107AMJ	81 11 22.9	28	41	Ministerio International L		
245L1 Cocoa	WRRQ-LP	CP		111.7	74.89	28 21 21.0	0.063			40.6	18.5
			FL	292.0	BNPL20131029AGX	80 44 46.8	38	41	Living Free In Christ Chur		
247D Deland	W247AK	LIC	CN	18.4	49.00	29 01 31.0	0.100	0.7	6.6	32.1	41.3
			FL	198.5	BLFT19980918TD	81 17 51.0	41	52	Cornerstone Broadcasting C		
Translator for WJLUFM, New Smyrna Beach, FL.											
246L1 Titusville	WTYX-LP	CP		88.7	63.16	28 37 03.0	0.100			39.1	33.5
			FL	269.0	BNPL20131114AXR	80 48 40.0	29	32	Pathway Public Radio, Inc.		

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 exclamation marks 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.
* = Station meets FCC minimum distance spacing for its class.
< = Contour Overlap

Figure 2. Contour Map

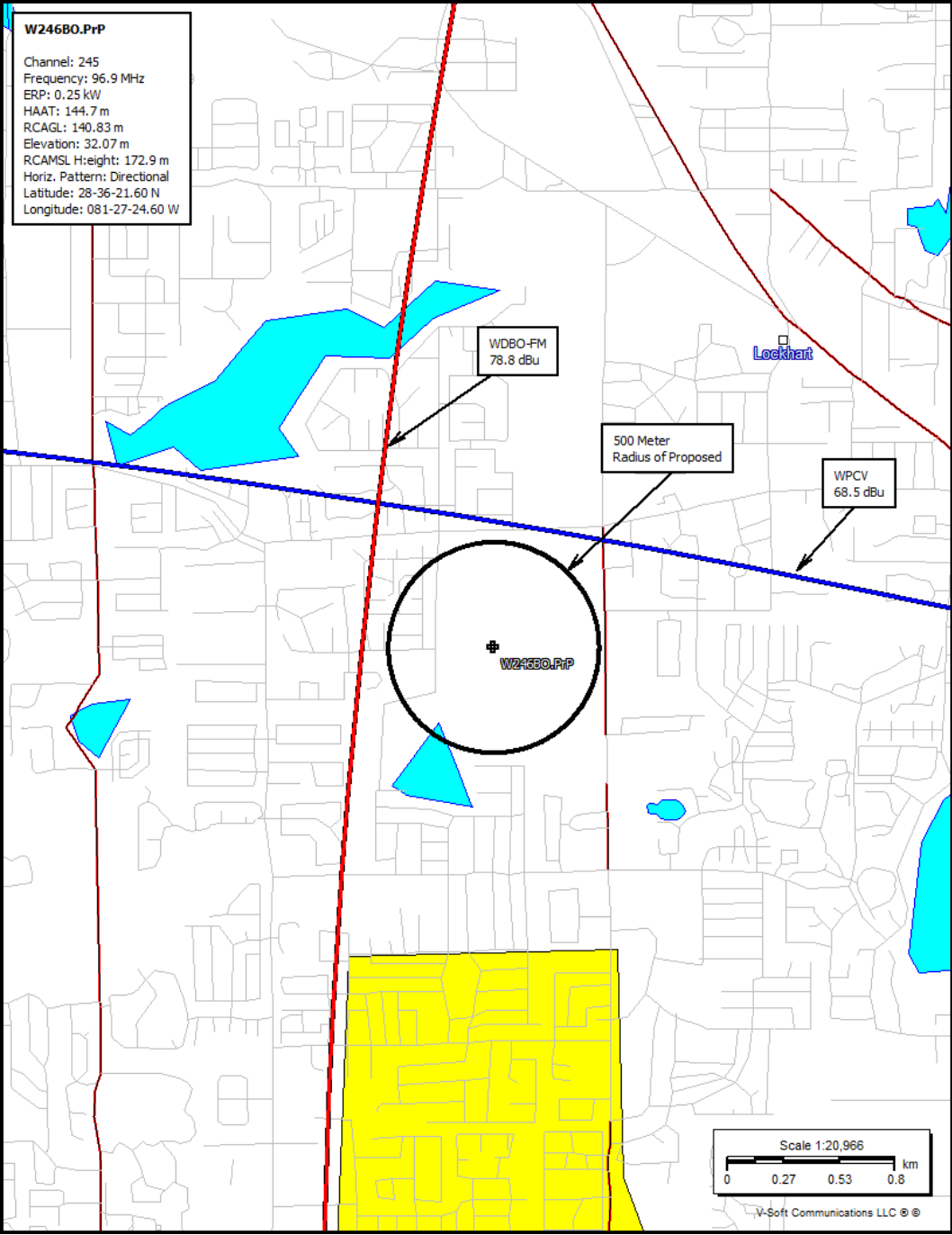


Figure 3. View of Antenna Location.

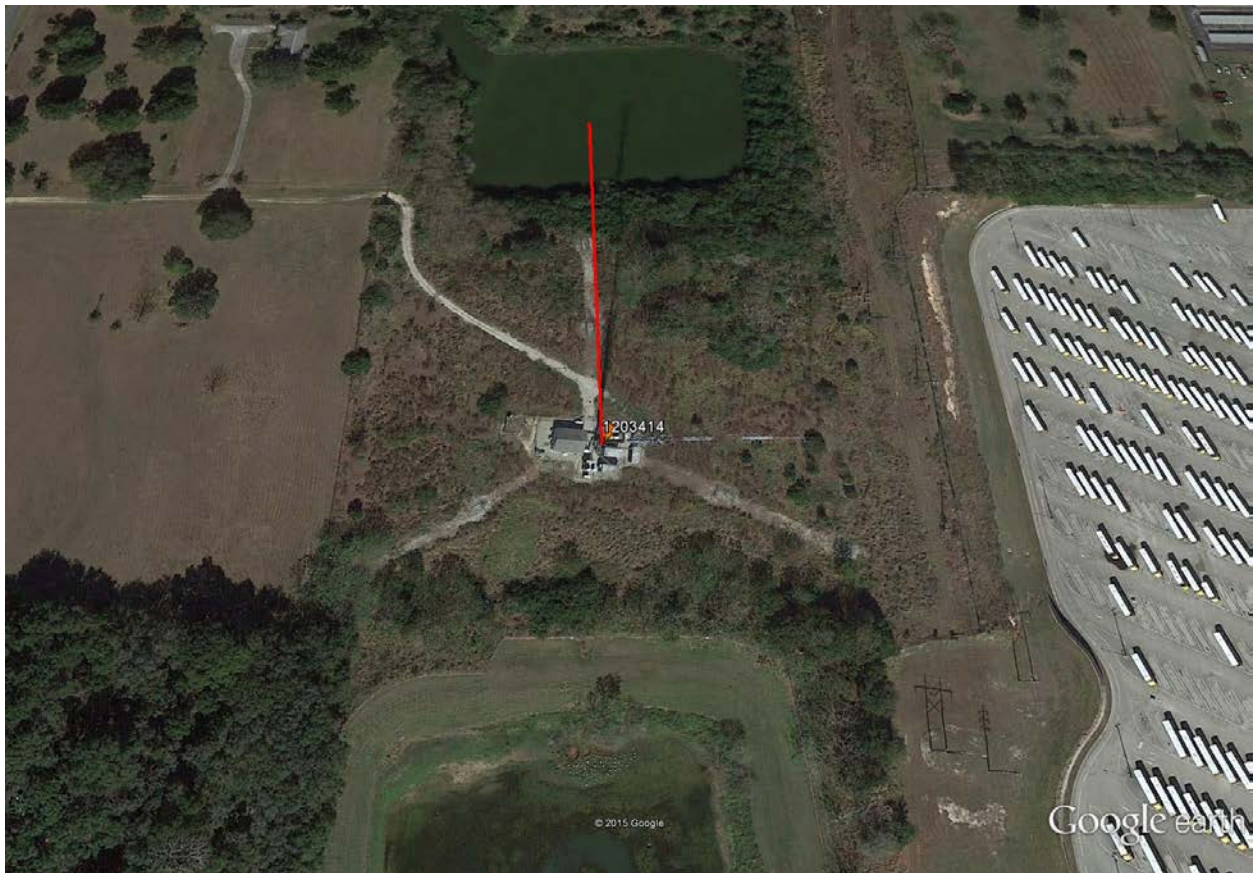


Figure 4. Distance to Signal Level Table.

Proposed Antenna: Nicom BKG77/2 2-Bay 1/2 wave spaced.								
Proposed Power:		0.25	kW	Fill in "yellow" cells				
Antenna Height AGL:		140	meters					
Interference Contour:		108.5	dBu					
Artificial Rcv Antenna Height:		2	meters					
Distance (Free Space) Equation: $= (10^{((106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]) / 20))} * 1000$								
Field Strength (dBu) Equation $"= 106.92 - (20 * (\text{LOG10}[\text{DistMeters}] / 1000)) + [\text{ERP in dBk}]$								
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	416.84 m	infinite	---	infinite	---
-5°	0.988	0.244	-6.13	411.84 m	1583.37 m	96.80 dBu	1606.32 m	96.68 dBu
-10°	0.947	0.224	-6.49	394.75 m	794.71 m	102.42 dBu	806.23 m	102.30 dBu
-15°	0.871	0.190	-7.22	363.07 m	533.19 m	105.16 dBu	540.92 m	105.04 dBu
-20°	0.792	0.157	-8.05	330.14 m	403.49 m	106.76 dBu	409.33 m	106.63 dBu
-25°	0.682	0.116	-9.34	284.29 m	326.54 m	107.30 dBu	331.27 m	107.17 dBu
-30°	0.565	0.080	-10.98	235.51 m	276.00 m	107.12 dBu	280.00 m	107.00 dBu
-35°	0.496	0.062	-12.11	206.75 m	240.60 m	107.18 dBu	244.08 m	107.06 dBu
-40°	0.376	0.035	-14.52	156.73 m	214.69 m	105.77 dBu	217.80 m	105.64 dBu
-45°	0.273	0.019	-17.30	113.80 m	195.16 m	103.81 dBu	197.99 m	103.69 dBu
-50°	0.188	0.009	-20.54	78.37 m	180.15 m	101.27 dBu	182.76 m	101.15 dBu
-55°	0.131	0.004	-23.68	54.61 m	168.47 m	98.71 dBu	170.91 m	98.59 dBu
-60°	0.079	0.002	-28.07	32.93 m	159.35 m	94.80 dBu	161.66 m	94.68 dBu
-65°	0.047	0.001	-32.58	19.59 m	152.27 m	90.69 dBu	154.47 m	90.56 dBu
-70°	0.022	0.000	-39.17	9.17 m	146.86 m	84.41 dBu	148.98 m	84.29 dBu
-75°	0.010	0.000	-46.02	4.17 m	142.87 m	77.80 dBu	144.94 m	77.68 dBu
-80°	0.003	0.000	-56.48	1.25 m	140.13 m	67.51 dBu	142.16 m	67.39 dBu
-85°	0.001	0.000	-66.02	0.42 m	138.53 m	58.07 dBu	140.53 m	57.94 dBu
-90°	0.001	0.000	-66.02	0.42 m	138.00 m	58.10 dBu	140.00 m	57.98 dBu

Figure 5 Map of Primary, Licensed, and Proposed 60 dBu

