

Minor Modification of W295AZ Facility ID No. 152950

This minor change application seeks to modify the facilities of translator W295AZ by changing the antenna type to allow the facility to share the same antenna as is permitted for W281AM. No changes are proposed to the location, antenna height of 245 meters above ground, or the ERP of 99 watts. The shared antenna is a non-directional 2-bay $\frac{1}{2}$ -wave spaced circularly polarized antenna mounted on a tower identified by ASR No. 1020783 to serve as a fill-in translator for station WQIK-FM.

Below as Figure 1 is a spacing/clearance table from which it can be determined that the "Living Way" method needs to be utilized to demonstrate no actual interference will be caused to WWJK or WXXJ. As shown in Figure 2, in the vicinity of the proposed location, both WWJK and WXXJ are predicted to have a signal of greater than 100 dBu, thus the respective +40 dB interfering signal of 140 dBu was utilized for analysis. This instant proposal, due to the vertical directivity of the antenna and its height above ground, will not create any actual interference to WWJK or WXXJ as shown in Figures 3. Figure 4 is an aerial image allowing determination that no habitable space is located near the antenna.

As shown in Figure 5, the entire 60 dBu contour fits within the 60 dBu contour of the primary station for which this translator is to be "fill-in".

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, two-element, half-wave spaced antenna (EPA Type 2) mounted 245 meters above ground and will operated with an effective radiated power of 0.099 Kilowatts in both the horizontal and vertical polarizations. At 2 meters above the surface, at 452 meters from the base of the tower, this proposal will contribute worst case, 0.012 microwatts per square centimeter, or 0.0012 percent of the allowable ANSI limit for controlled exposure, and 0.006 percent of the allowable limit for uncontrolled exposure. This figure is less the 5% of the applicable FCC 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 his proposal is in compliance with OET Bulletin Number 65 as required by the FCC.

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, was necessary to limit human exposure to levels less than specified by the FCC should anyone be required to climb the tower for maintenance or inspection.

Figure 1. Overlap and Spacing Study

W295AZ Mod of Ant Type to Combine with W281AM											
Educational Media Foundation											
REFERENCE CH# 295D - 106.9 MHz, Pwr= 0.099 kW, HAAT= 248.0 M, COR= 254 M											
30 16 35.00 N. Average Protected F(50-50)= 16.2 km											
81 33 50.71 W. Omni-directional											
DISPLAY DATES											
DATA 03-04-21											
SEARCH 03-05-21											
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(KW)	INT(km)	PRO(km)	*IN*	*OUT*
CITY	STATE			<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	
297C1	WWJK	LIC	_CN	313.5	0.75	30 16 51.90	98.000	10.1	72.4	-25.7*	-72.4*
	Green Cove Springs	FL		133.5	BMLH20120611ABL	81 34 11.30	302	310	Ihm Licenses, LLC		
295D	W295AZ	LIC	_CN	0.0	0.00	30 16 35.00	0.099		---	Reference---	
	Jacksonville Beach	FL		270.0	BLFT20120710AAB	81 33 50.70	248	254	Educational Media Foundati		
293A	WXXJ	LIC	ZCN	279.0	0.17	30 16 35.90	6.000	2.8	28.3	-18.9*	-28.8*
	Ponte Vedra Beach	FL		99.0	BMLH20030908ABP	81 33 57.30	100	104	Cox Radio, LLC		
295C1	WPLL	LIC	NCN	239.4	144.36	29 36 32.00	100.000	152.6	56.6	-24.5*	34.7
	Cross City	FL		58.7	BMLH20180306AAI	82 50 58.10	143	155	Marc Radio Gainesville, LL		
295L1	WJDS-LP	LIC	_CN	157.0	87.92	29 32 52.70	0.100			53.2	29.5
	Palm Coast	FL		337.2	BLL20160210ABF	81 12 32.00	29	33	Hammock Educational And En		
292D	W292DE	LIC	_CN	154.5	52.42	29 51 01.90	0.225	1.1	14.3	35.2	37.4
	St. Augustine	FL		334.6	BLFT20190131ABY	81 19 48.30		137	Flagler Broadcasting, LLC		
292A	WKBX	LIC	ZCN	349.4	59.38	30 48 04.80	6.000	2.0	21.6	41.2	35.7
	Kingsland	GA		169.3	BLH19960111KA	81 40 42.30	100	101	Radio Kings Bay, Inc.		
292A	WEAG-FM	LIC	_CN	233.7	64.62	29 55 50.90	2.700	2.5	27.6	45.8	36.3
	Starke	FL		53.4	BMLH20000803ACB	82 06 15.40	151	196	Dickerson Broadcasting, In		
295C1	WUBB	LIC	NCN	17.2	227.28	32 13 36.70	100.000	166.7	67.7	44.4	106.7
	Bluffton	SC		197.6	BLH19961227KE	80 50 52.30	244	244	Alpha Media Licensee LLC		
296A	WSGT	LIC	_CN	336.7	134.39	31 23 07.80	6.000	45.6	29.6	72.5	80.4
	Patterson	GA		156.4	BLH20120430ADW	82 07 26.40	100	124	Higgs Multimedia Group, LL		
294C1	WXXL	LIC	_CN	180.9	190.97	28 33 32.00	100.000	101.7	69.6	73.0	97.1
	Tavares	FL		0.9	BMLH20100809CHA	81 35 37.30	251	284	Ihm Licenses, LLC		
294C1	WOKA-FM	LIC	_CN	321.9	198.25	31 40 21.70	100.000	105.7	72.8	76.2	100.8
	Douglas	GA		141.2	BLH20020314AAN	82 51 27.50	299	377	Coffee County Broadcasters		
293A	WCJX	LIC	NCN	269.0	107.38	30 15 14.80	3.800	2.4	25.8	88.6	80.9
	Five Points	FL		88.4	BLH20020425ABR	82 40 55.40	104	141	Southern Communications, L		
293D	W293CH	LIC	DCN	3.9	102.29	31 11 39.80	0.055	0.4	6.9	85.7	94.4
	Brunswick	GA		183.9	BLFT20161117ABE	81 29 29.40		74	Bible Broadcasting Network		
296L1	WAVX-LP	LIC	_CN	156.2	124.32	29 15 07.00	0.013			100.1	94.2
	Ormond Beach	FL		336.5	0000131837	81 02 52.00	82	86	Reign Radio Ministries, In		
298A	WJHC	LIC	NCN	282.0	135.85	30 31 19.80	6.000	2.7	27.9	116.8	107.2
	Jasper	FL		101.3	BLH20101112AVN	82 57 06.50	90	124	Smalltown Broadcasting, LL		

Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
 In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.
 All separation margins (if shown) include rounding.
 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 2. Contour Map

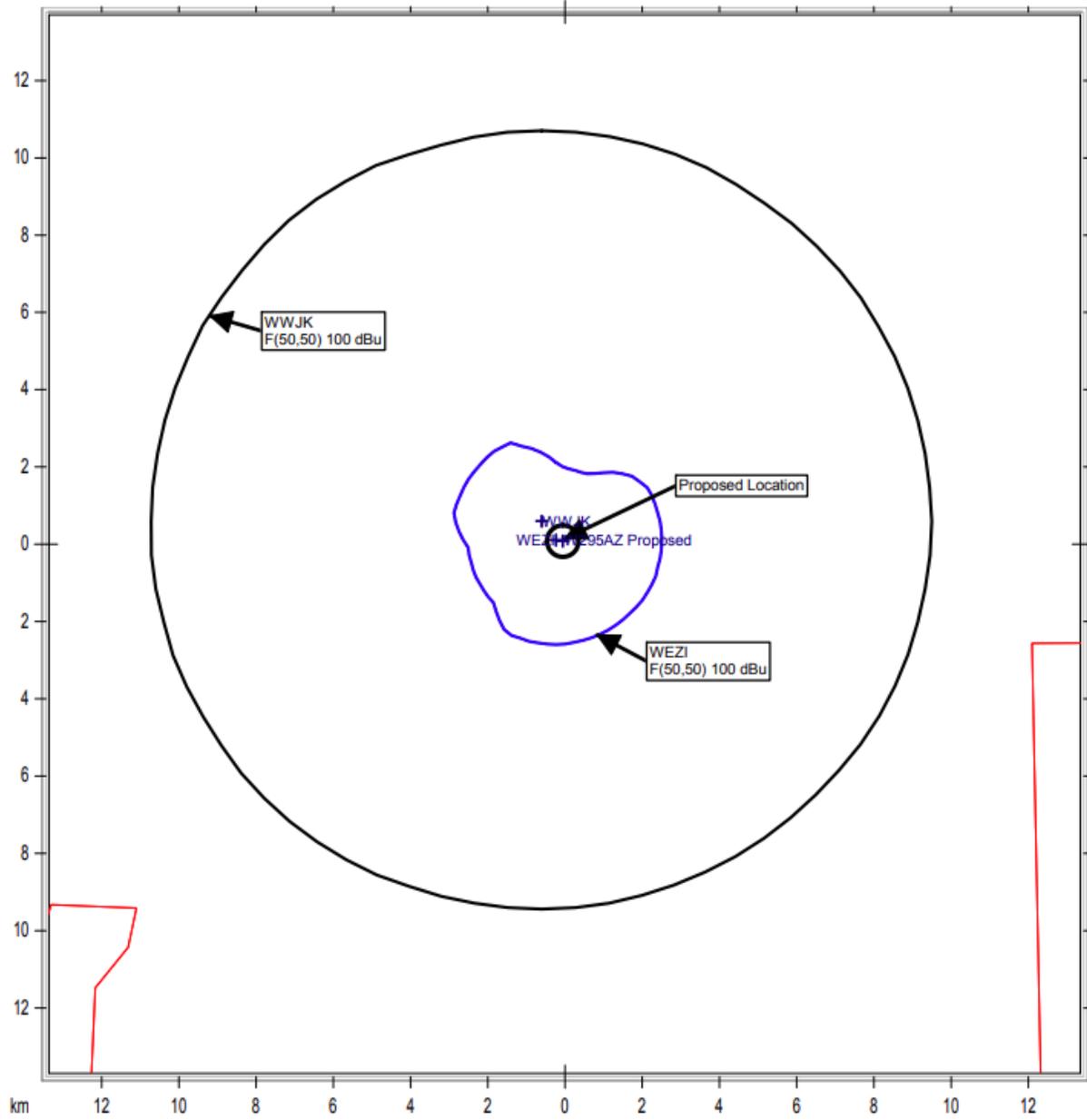


Figure 3. Signal Level at or Near Ground Level

Proposed Antenna:		Nicom BKG77/2 2-Bay 1/2 wave spaced.						
Proposed Power:		0.099	kW	Fill in "yellow" cells				
Antenna Height AGL:		245	meters					
Interference Contour:		140	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	0.099	-10.04	6.98 m	infinite	---	infinite	---
-5°	0.988	0.097	-10.15	6.90 m	2788.11 m	87.87 dBu	2811.06 m	87.79 dBu
-10°	0.947	0.089	-10.52	6.61 m	1399.38 m	93.48 dBu	1410.90 m	93.41 dBu
-15°	0.871	0.075	-11.24	6.08 m	938.88 m	96.22 dBu	946.61 m	96.15 dBu
-20°	0.792	0.062	-12.07	5.53 m	710.48 m	97.82 dBu	716.33 m	97.75 dBu
-25°	0.682	0.046	-13.37	4.76 m	574.99 m	98.36 dBu	579.72 m	98.29 dBu
-30°	0.565	0.032	-15.00	3.94 m	486.00 m	98.18 dBu	490.00 m	98.11 dBu
-35°	0.496	0.024	-16.13	3.46 m	423.66 m	98.25 dBu	427.14 m	98.17 dBu
-40°	0.376	0.014	-18.54	2.62 m	378.04 m	96.83 dBu	381.15 m	96.76 dBu
-45°	0.273	0.007	-21.32	1.91 m	343.65 m	94.88 dBu	346.48 m	94.81 dBu
-50°	0.188	0.003	-24.56	1.31 m	317.21 m	92.33 dBu	319.82 m	92.26 dBu
-55°	0.131	0.002	-27.70	0.91 m	296.65 m	89.78 dBu	299.09 m	89.71 dBu
-60°	0.079	0.001	-32.09	0.55 m	280.59 m	85.87 dBu	282.90 m	85.80 dBu
-65°	0.047	0.000	-36.60	0.33 m	268.12 m	81.75 dBu	270.33 m	81.68 dBu
-70°	0.022	0.000	-43.20	0.15 m	258.60 m	75.47 dBu	260.72 m	75.40 dBu
-75°	0.010	0.000	-50.04	0.07 m	251.57 m	68.86 dBu	253.64 m	68.79 dBu
-80°	0.003	0.000	-60.50	0.02 m	246.75 m	58.57 dBu	248.78 m	58.50 dBu
-85°	0.001	0.000	-70.04	0.01 m	243.93 m	49.13 dBu	245.94 m	49.06 dBu
-90°	0.001	0.000	-70.04	0.01 m	243.00 m	49.16 dBu	245.00 m	49.09 dBu

Figure 4. Aerial Image of Proposed Support Tower



Figure 5. Fill-in and Minor Change Contour Map

