

# Minor Modification of Permit W247BW; BNPFT - 20130806AAB Facility ID No. 140321

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This exhibit is for minor modification of translator permit for W247BW Facility ID No. 140321, BNPFT - 20130806AAB. It specifies a change in primary station, antenna elevation, make and model only.

## **Antenna Location**

The proposed antenna is to be mounted on an existing tower identified by registration number 1018922 at 171 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 **third** adjacent channel co-owned station WIBB-FM; and that **second** adjacent channel translator W245CG which is permitted to be co-located with this proposal.

## **73.1204 Complianace**

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 than the protected facility presents in the location of the proposed translator antenna location.

**Concerning WIBB-FM;** In **Figure 2** a map showing the predicted 63.5 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 103.5 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 103.5 dBu signal developed by 250 watts, as proposed, emitted by the proposed antenna mounted 171 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.

**Concerning W245CG;** This W247BW facility and the permitted W245CG are to be co-located upon the same tower. The W245CG antenna is permitted for 147 m above ground level, thus no interference in a habitable/populated area could be caused to W245CG by this proposal.

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.

### **Fill-in Status**

This proposal is to serve as a fill-in translator for station WIBB(AM), Facility ID 41989, Macon, GA. The map of Figure 2 demonstrates that the proposed 60 dBu contour is contained within that of the WIBB daytime 2 mV/m contour, and within a 25 mile radius of the WIBB daytime facility.

### **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 a composite **ERI 100A-4F-HW four (1) element, half-wave spaced**; antenna mounted 171 meters above ground. As this element type is not modeled in any current computer program, for purposes of this analysis the FM Model program has been set to calculate values for a "worst case" type of antenna element array, "Ring Stub", operated with an effective radiated power of 0.25 Kilowatts in the Horizontal and Vertical plane. At 2 meters above the surface, at 150 meters from the base of the tower, this proposal will contribute worst case, 0.02 microwatts per square centimeter, or 0.002 percent of the allowable ANSI limit for controlled exposure, and 0.01 percent of the allowable limit for uncontrolled exposure. This figure is less than 0.10% 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.

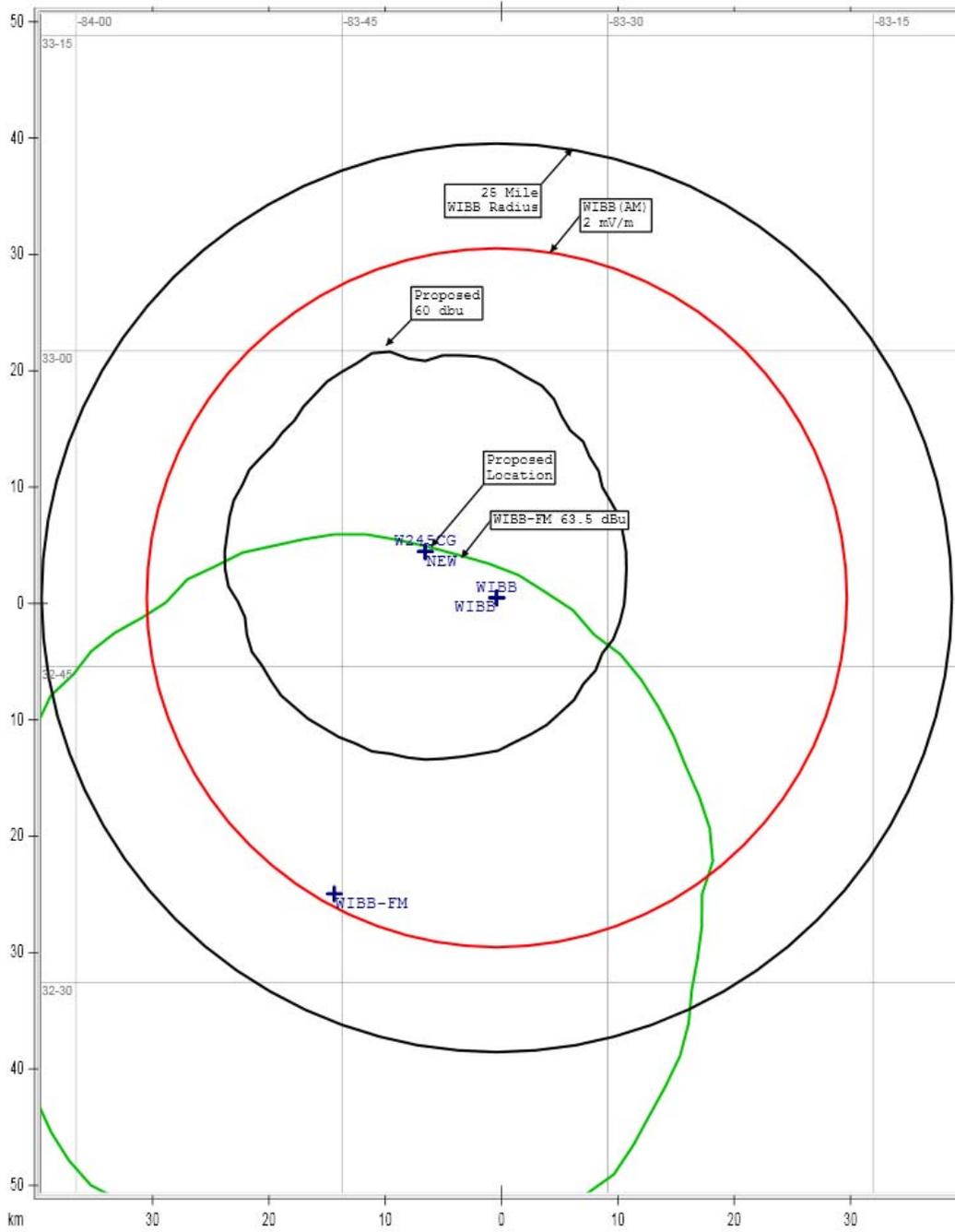
Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, 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**

W247BW With New Elev and Ant 10-16-2014											
Cleveland Radio Licenses, Llc											
REFERENCE	CH#	247D - 97.3 MHz, Pwr= 0.25 kW, HAAT= 185.5 M, COR= 304 M						DISPLAY DATES			
32 50 28.0 N.		Average Protected F(50-50)= 17.88 km						DATA 10-15-14			
83 40 17.5 W.		Omni-directional						SEARCH 10-16-14			
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PRR(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY	STATE			<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	
247D	W247BW	CP _C_		0.0	0.00	32 50 28.0	0.250	53.9	16.9	-71.1*	-71.5*
Macon	GA			0.0	BNPFT20130806AAB	83 40 17.5	180	298	Cleveland Radio Licenses,		
245D	W245CG	CP _C_		270.0	0.01	32 50 28.0	0.005	0.2	6.2	-18.0*	-7.3*
Macon	GA			90.0	BNPFT20130820ABH	83 40 18.0	162	280	American Family Associatio		
250C3	WIBB-FM	LIC _CN		194.9	31.12	32 34 12.0	10.500	3.8	37.9	9.0	-7.9*
Fort Valley	GA			14.9	BMLH19990112KBB	83 45 26.0	152	271	Amfm Radio Licenses, L.L.C		
246C	WSRV	LIC _CY		353.1	143.51	34 07 32.0	100.000	129.9	87.0	-4.0	30.3
Gainesville	GA			173.0	BLH19980825KBB	83 51 32.0	483	797	Cox Radio, Inc.		
246L1	WLVN-LP	LIC _		198.7	33.57	32 33 16.0	0.100			7.3	0.7
Fort Valley	GA			18.6	BLL20020924AAJ	83 47 12.0	27	153	Calvary Chapel Heartland,		
247C0	WGEX	LIC _CX		203.9	204.49	31 09 12.0	100.000	172.7	72.9	13.6	74.4
Bainbridge	GA			23.4	BMLH20110728ADK	84 32 38.0	304	348	Cc Licenses, Llc		
248A	WUFF-FM	LIC _C_		148.2	80.84	32 13 18.0	4.620	41.1	26.8	20.7	25.8
Eastman	GA			328.4	BLH20080304ABL	83 13 04.0	113	211	Dodge Broadcasting, Inc.		
245D	W245AN	LIC _C_		56.1	43.73	33 03 35.0	0.019	0.3	5.3	26.5	37.4
Milledgeville	GA			236.3	BLFT20070514ABA	83 16 56.0	85	203	Community Public Radio, In		
249C3	WMGZ	LIC _C_		36.3	69.52	33 20 41.0	8.500	3.9	39.6	47.7	28.8
Eatonton	GA			216.5	BLH19991018ABS	83 13 41.0	169	315	Southern Stone Broadcastin		
245A	WFVS-FM	CP_ZCX		213.7	57.22	32 24 44.0	5.300	2.5	25.3	36.5	30.9
Reynolds	GA			33.6	BMPED20140610AAR	84 00 38.0	106	222	Bd. Regents, U. Syst.of Ga		
					One Step Application						
246C1	WSRV	CP _CX		348.1	147.61	34 08 34.0	100.000	95.7	64.7	33.8	56.0
Gainesville	GA			167.9	BPH20070118ACV	84 00 11.0	212	548	Cox Radio, Inc.		
244D	W244CL	LIC _C_		148.6	55.77	32 24 43.0	0.250	1.1	11.4	35.7	43.3
Cochran	GA			328.8	BLFT20100406ACX	83 21 42.0	69	163	Georgia Eagle Broadcasting		
247C0	WAEV	LIC _CX		111.4	236.24	32 02 45.0	100.000	182.0	79.0	35.8	99.4
Savannah	GA			292.6	BLH20020604AAW	81 20 27.0	396	402	Capstar Tx Llc		
248C3	WUMJ	LIC_NCX		311.2	112.35	33 30 13.0	8.500	58.7	39.7	37.0	47.8
Fayetteville	GA			130.7	BLH20130605ABH	84 34 58.0	165	443	Roa Licenses, Llc		
245D	W245BT	LIC _C_		115.3	78.36	32 32 15.0	0.250	1.1	7.1	58.8	70.2
Dublin	GA			295.8	BLFT20110218AAG	82 55 01.0	23	100	John M. Dowdy		
249C1	WMGZ	CP_NCX		25.2	124.84	33 51 28.0	100.000	6.9	57.6	99.8	66.2
Lexington	GA			205.5	BPH20070416ACW	83 05 45.0	154	338	Southern Stone Broadcastin		

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 zones = Co to 3rd adjacent.  
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 protected contour.

**Figure 2. Contour Map**



**Figure 3. Signal Level at or Near Ground Level**

<p><b>Proposed Antenna:</b> ERI 100A-4F-HW</p> <p><b>Proposed Power:</b> 0.25 kW</p> <p><b>Antenna Height AGL:</b> 171 meters</p> <p><b>Interference Contour:</b> 103.5 dBu</p> <p><b>Artificial Rcv Antenna Height:</b> 2 meters</p> <p><b>Distance (Free Space) Equation:</b> <math>= (10^{((106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]) / 20)}) * 1000</math></p> <p><b>Field Strength (dBu) Equation:</b> <math>= 106.92 - (20 * (\text{LOG}10[\text{DistMeters} / 1000])) + [\text{ERP in dBk}]</math></p>								
<b>Depression</b>				<b>Distance</b>				
<b>Angle</b>	<b>Antenna</b>			<b>from Ant.</b>	<b>Distance</b>	<b>Field Strength</b>	<b>Distance</b>	<b>Field Strength</b>
<b>Below</b>	<b>Relative</b>	<b>ERP</b>	<b>ERP</b>	<b>to Interf</b>	<b>rom Ant. to</b>	<b>in dBu @</b>	<b>from Ant.</b>	<b>in dBu @</b>
<b>Horizon</b>	<b>Field</b>	<b>in kW</b>	<b>in dBk</b>	<b>Contour</b>	<b>Artificial Plane</b>	<b>Artificial Plane</b>	<b>to Ground Level</b>	<b>Ground Level</b>
0°	1.000	0.250	-6.02	741.26 m	infinite	---	infinite	---
-5°	0.951	0.226	-6.46	704.94 m	1939.06 m	94.71 dBu	1962.00 m	94.61 dBu
-10°	0.841	0.177	-7.52	623.40 m	973.23 m	99.63 dBu	984.75 m	99.53 dBu
-15°	0.615	0.095	-10.24	455.87 m	652.97 m	100.38 dBu	660.69 m	100.28 dBu
-20°	0.391	0.038	-14.18	289.83 m	494.12 m	98.87 dBu	499.97 m	98.76 dBu
-25°	0.178	0.008	-21.01	131.94 m	399.89 m	93.87 dBu	404.62 m	93.77 dBu
-30°	0.004	0.000	-53.98	2.97 m	338.00 m	62.36 dBu	342.00 m	62.26 dBu
-35°	0.117	0.003	-24.66	86.73 m	294.64 m	92.88 dBu	298.13 m	92.78 dBu
-40°	0.182	0.008	-20.82	134.91 m	262.92 m	97.70 dBu	266.03 m	97.60 dBu
-45°	0.200	0.010	-20.00	148.25 m	239.00 m	99.35 dBu	241.83 m	99.25 dBu
-50°	0.184	0.008	-20.72	136.39 m	220.61 m	99.32 dBu	223.22 m	99.22 dBu
-55°	0.150	0.006	-22.50	111.19 m	206.31 m	98.13 dBu	208.75 m	98.03 dBu
-60°	0.110	0.003	-25.19	81.54 m	195.14 m	95.92 dBu	197.45 m	95.82 dBu
-65°	0.072	0.001	-28.87	53.37 m	186.47 m	92.63 dBu	188.68 m	92.53 dBu
-70°	0.042	0.000	-33.56	31.13 m	179.85 m	88.27 dBu	181.97 m	88.16 dBu
-75°	0.021	0.000	-39.58	15.57 m	174.96 m	82.48 dBu	177.03 m	82.38 dBu
-80°	0.008	0.000	-47.96	5.93 m	171.61 m	74.27 dBu	173.64 m	74.17 dBu
-85°	0.002	0.000	-60.00	1.48 m	169.65 m	62.33 dBu	171.65 m	62.23 dBu
-90°	0.001	0.000	-66.02	0.74 m	169.00 m	56.34 dBu	171.00 m	56.24 dBu

Fill in  
"yellow"  
cells

**Figure 4. Aerial Image of Area Near Proposed Support Tower**

