

**Comprehensive Engineering Exhibit  
Minor Change Application  
W259BX, Facility ID No. 139444**

This is a 250-Mile Window Application. The translator licensee and that of the subject AM station are entities under common control.

The subject construction permit was applied for during the 2003 FM Translator window (the "Auction 83 FM Translator Window"), and is scheduled to expire on October 21, 2016. The Commission determined in its First Report and Order in Revitalization of the AM Radio Service, FCC 15-242 at n.36 (rel. Oct. 23, 2015), that waivers of Auction 83 FM Translator Window construction permit deadlines for permits to be modified for association with an AM station in the AM station FM translator modification windows are presumptively in the public interest, provided that the AM station licensee commits to prompt FM translator station construction and initiation of broadcast operations. The AM station/FM translator station licensee(s) here are committing to prompt FM translator station construction and initiation of broadcast operations upon the grant of the requested FM translator modification."

This fill-in application seeks to modify W259BX by changing the antenna location, height, frequency, and antenna type. It is proposed to operate with 250 watts ERP, utilizing a directional, circularly polarized antenna mounted 137 meters above ground level, on a tower identified by ASR Number 1039555.

Below as Figure 1 is a spacing/clearance table from which it can be determined that the "Living Way" method must be utilized to demonstrate that no actual interference will be caused to WWKA.

As shown in Figure 2, in the vicinity of the proposed location, WWKA is predicted to have a signal of 65.6 dBu, thus the respective +40 dB interfering signals is 105.6 dBu. This instant proposal, due to the vertical directivity of the antenna and its height above ground, will not create any actual interference to WWKA as shown in Figures 3. Figure 4 is an aerial image allowing determination that no tall buildings are located in the vicinity of the proposed antenna site.

As shown in Figure 5, the entire 60 dBu contour fits within the predicted daytime 2 mV/m contour and within 25 miles of the primary AM 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 an ERI Model 100A-4F-DA-HW, four-element, half-wave spaced antenna mounted 137 meters above ground. For purposes of this analysis the FM Model program has been set to calculate values for a worst case "Ring Stub" antenna element, operated with an effective radiated power of 0.25 Kilowatts in both the horizontal and vertical polarizations. At 2 meters above the surface, at 113 meters from the base of the tower, this proposal will contribute worst case, 0.030 microwatts per square centimeter, or 0.003 percent of the allowable ANSI limit for controlled exposure, and 0.015 percent of the allowable limit for uncontrolled exposure. This figure is less than 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

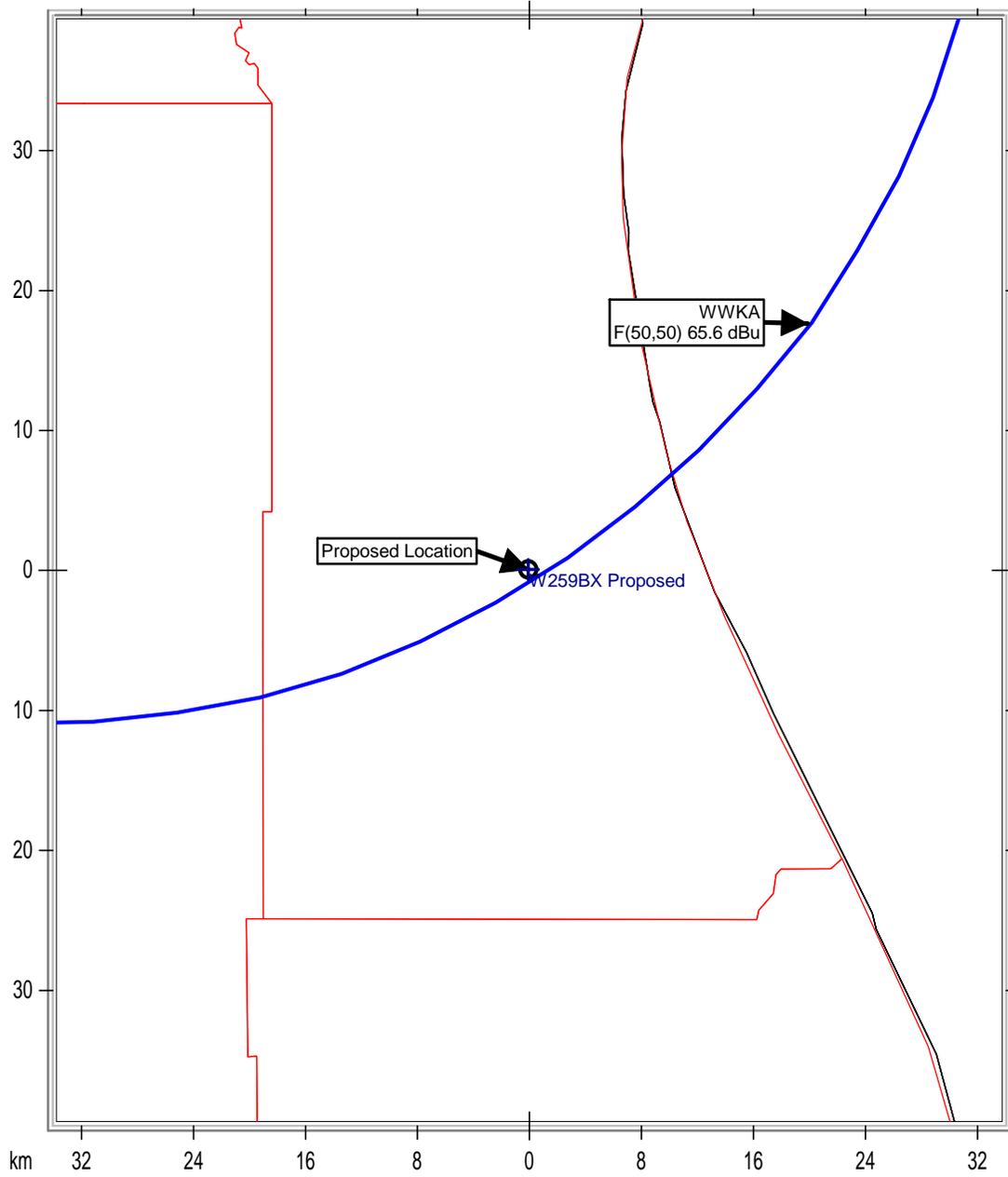
exposure limit. It is therefore believed that his proposal is in compliance with OET Bulletin Number 65 as required by the FCC.

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. Spacing/Clearance Table**

Callsign	Channel	ERP_w	ARN	Class	Status	Dist_km	Sep	Clr	Clr Notes
WWKA	222	99000	BLH-20011221AAP	C	LIC	68.7	0	-6.16 dB	Living Way
KRAQ-LP	225	89.3	BNPL-20131104AAK	LP100	CP	30.9	24	0.81 dB	Clear
W227AF	227	55	BLFT-19960409TA	D	LIC	10.35	0	5.50 dB	Clear
WAVW	224	50000	BMLH-20100113ABB	C2	LIC	93.81	0	8.85 dB	Clear
NEW	225	100	BNPL-20131112AAG	LP100	APP	67.23	24	14.58 dB	Clear
NEW	226	100	BNPL-20131113AUL	LP100	CP	35.73	13	16.23 dB	Clear
WIKX	225	100000	BLH-20000626AET	C1	LIC	200.43	0	22.32 dB	Clear
WFLZ-FM	227	97000	BLH-20110317ABC	C	LIC	158	0	24.10 dB	Clear
WFPP-LP	224	100	BLL-20150803AAM	LP100	LIC	90.09	13	25.00 dB	Clear
WQOL	279	50000	BMLH-20100810ABB	C2	LIC	40.69	15	25.7	Clear
W225CA	225	99	BNPFT-20131022AAC	D	CP	158.11	0	26.12 dB	Clear
W226BT	226	99	BLFT-20150312AAO	D	LIC	88	0	27.57 dB	Clear
W224CE	224	10	BNPFT-20130318AGL	D	CP	61.9	0	29.21 dB	Clear
WKIE-LP	224	28	BLL-20150924ADZ	LP100	LIC	78.1	13	29.46 dB	Clear
WMFQ	225	50000	BLH-20011022AAS	C2	LIC	179.67	0	31.69 dB	Clear
WKRO-FM	226	24500	BLH-20130401AGL	C3	LIC	126.63	0	32.49 dB	Clear
W224CF	224	250	BMPFT-20150901ACD	D	CP MOD	112.69	0	32.11 dB	Clear
NEW	278	100	BNPL-20131114BST	LP100	APP	40.11	7	33.1	Clear
WRDJ-LP	228	100	BMLL-20071126AAR	LP100	LIC	41.75	6	35.19 dB	Clear
W224CQ	224	27	BNPFT-20130814ADF	D	CP	106.61	0	38.92 dB	Clear
WFEZ	226	98000	BLH-20050224ABN	C0	LIC	235.04	0	38.35 dB	Clear
WRXW-LP	224	45	BLL-20151013AEH	LP100	LIC	93.78	13	38.43 dB	Clear
W227BT	227	13	BLFT-20071025AAB	D	LIC	87.73	0	39.37 dB	Clear

Figure 2. Contour Map



— National Borders    — County Borders    — State Borders

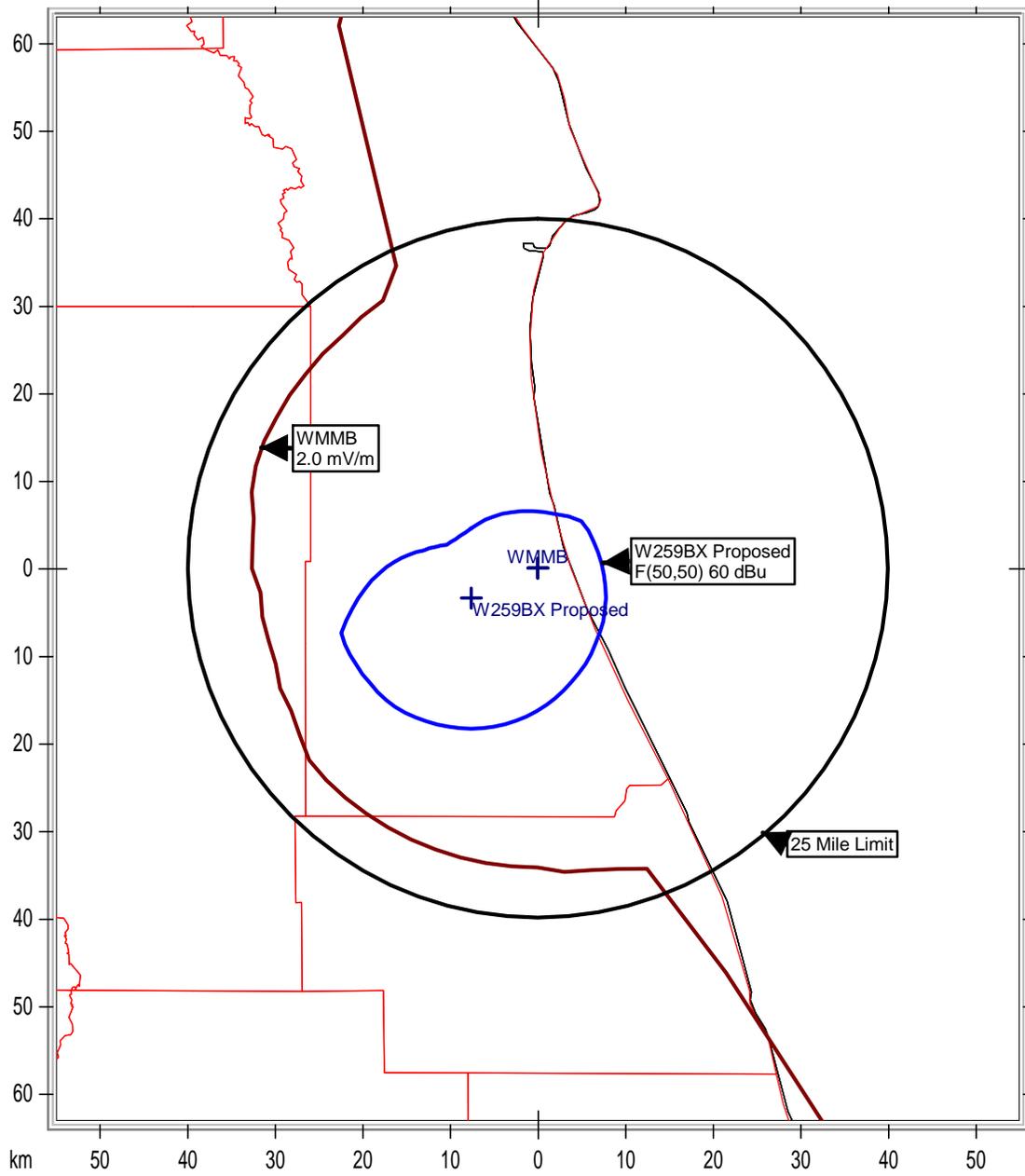
**Figure 3. Distance to Signal Contour**

<b>Proposed Antenna:</b>		ERI 100A-4F-HW							
<b>Proposed Power:</b>		0.25	kW			Fill in "yellow" cells			
<b>Antenna Height AGL:</b>		137	meters						
<b>Interference Contour:</b>		105.6	dBu						
<b>Artificial Rcv Antenna Height:</b>		2	meters						
<b>Distance (Free Space) Equation:</b>				$=(10^{((106.92-[desired\ dBu]+[ERP\ in\ dBk])/20)})^{*1000}$					
<b>Field Strength (dBu) Equation</b>				$"=106.92-(20*(LOG10[DistMeters]/1000)))+[ERP\ in\ dBk]$					
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	582.06 m	infinite	---	infinite	---	
-5°	0.951	0.226	-6.46	553.54 m	1548.95 m	96.66 dBu	1571.90 m	96.53 dBu	
-10°	0.841	0.177	-7.52	489.51 m	777.43 m	101.58 dBu	788.95 m	101.45 dBu	
-15°	0.615	0.095	-10.24	357.97 m	521.60 m	102.33 dBu	529.33 m	102.20 dBu	
-20°	0.391	0.038	-14.18	227.59 m	394.71 m	100.82 dBu	400.56 m	100.69 dBu	
-25°	0.178	0.008	-21.01	103.61 m	319.44 m	95.82 dBu	324.17 m	95.69 dBu	
-30°	0.004	0.000	-53.98	2.33 m	270.00 m	64.31 dBu	274.00 m	64.19 dBu	
-35°	0.117	0.003	-24.66	68.10 m	235.37 m	94.83 dBu	238.85 m	94.70 dBu	
-40°	0.182	0.008	-20.82	105.94 m	210.02 m	99.66 dBu	213.13 m	99.53 dBu	
-45°	0.200	0.010	-20.00	116.41 m	190.92 m	101.30 dBu	193.75 m	101.18 dBu	
-50°	0.184	0.008	-20.72	107.10 m	176.23 m	101.27 dBu	178.84 m	101.15 dBu	
-55°	0.150	0.006	-22.50	87.31 m	164.80 m	100.08 dBu	167.25 m	99.95 dBu	
-60°	0.110	0.003	-25.19	64.03 m	155.88 m	97.87 dBu	158.19 m	97.74 dBu	
-65°	0.072	0.001	-28.87	41.91 m	148.96 m	94.58 dBu	151.16 m	94.46 dBu	
-70°	0.042	0.000	-33.56	24.45 m	143.66 m	90.22 dBu	145.79 m	90.09 dBu	
-75°	0.021	0.000	-39.58	12.22 m	139.76 m	84.44 dBu	141.83 m	84.31 dBu	
-80°	0.008	0.000	-47.96	4.66 m	137.08 m	76.22 dBu	139.11 m	76.09 dBu	
-85°	0.002	0.000	-60.00	1.16 m	135.52 m	64.28 dBu	137.52 m	64.15 dBu	
-90°	0.001	0.000	-66.02	0.58 m	135.00 m	58.29 dBu	137.00 m	58.16 dBu	

Figure 4. Proposed Location Aerial Image

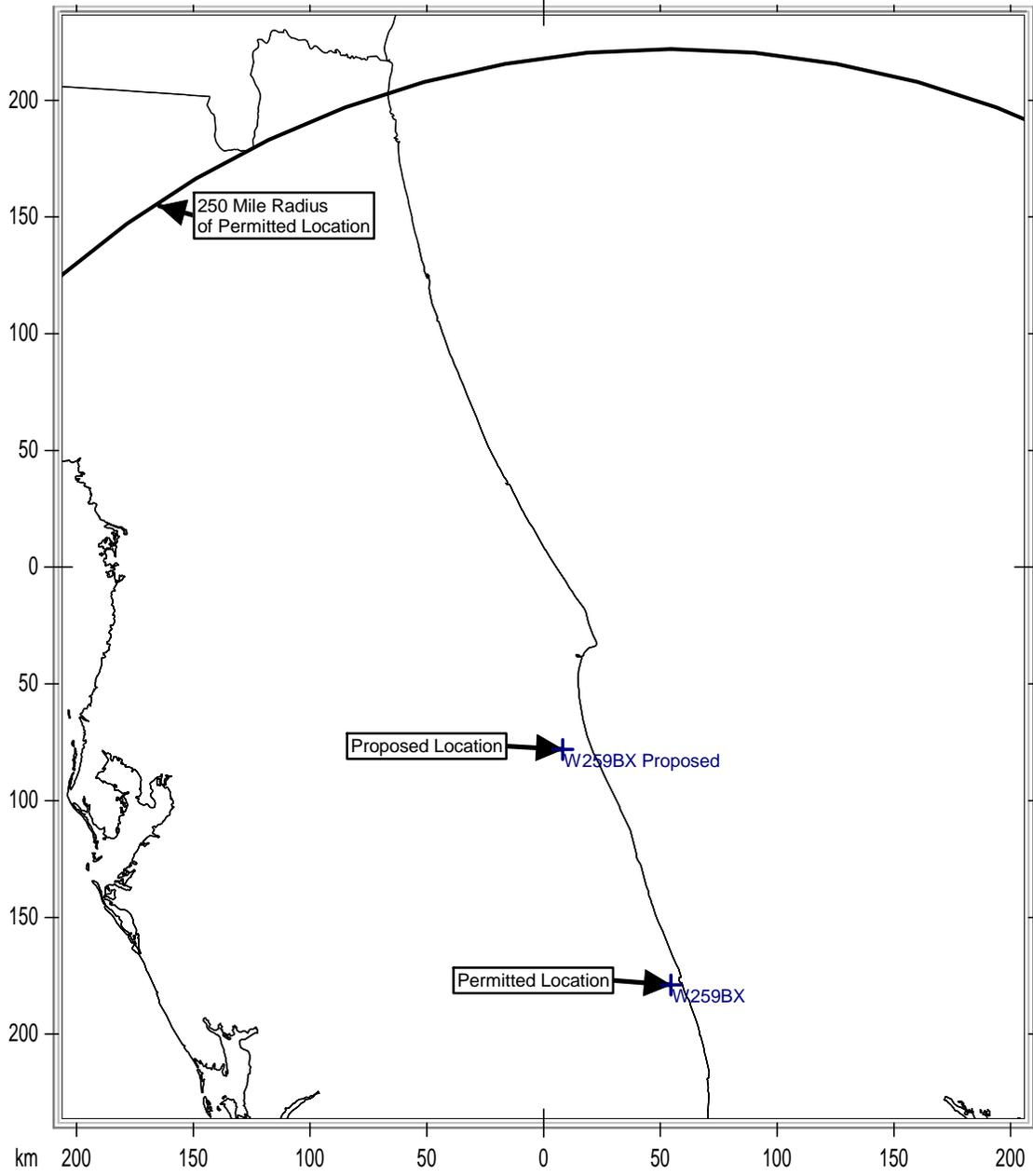


Figure 5. Contour and Distance Map



— National Borders    — County Borders    — State Borders

Figure 6. 250 Mile Radius



— National Borders — State Borders