

## **Comprehensive Engineering Exhibit Amendment to Construction Permit W260BJ, Facility ID No. 140561**

This fill-in application seeks to amend W260BJ Construction Permit BMPFT-20160129AIN, changing only the antenna height and orientation. It is proposed to operate with 99 watts ERP, utilizing a directional, circularly polarized antenna mounted 114 meters above ground level, on a tower identified by ASR Number 1057232.

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 collocated FM station WDRM.

This instant proposal will be collocated on the same tower as WDRM but the proposed antenna will be at a different height above ground of 114 meters as opposed to the WDRM main antenna which is located at a height of 172 meters. Utilizing the line of sight equations listed below it was determined that 100,000 watts emitted by an isotropic antenna mounted 172 meters above ground will develop a 142 dBu signal at ground level. The +40dB interfering contour of 182 dBu developed by 99 watts, as proposed, will extend for a distance of less than 1 meter from the antenna, thus no interference will be caused to WDRM.

**Distance (Free Space) Equation:**  $= (10^{((106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]) / 20)}) * 1000$

**Field Strength (dBu) Equation**  $= 106.92 - (20 * (\text{LOG}_{10}[\text{DistMeters} / 1000])) + [\text{ERP in dBk}]$

Figure 2 is an aerial image allowing determination that no tall buildings are located in the vicinity of the proposed antenna site.

As shown in Figure 3, 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 a Scala Model CA5-FM/CP/RM, circularly polarized Yagi antenna mounted 114 meters above ground. For purposes of this analysis the FM Model program has been set to calculate values for a worst case, single-element "Ring Stub" antenna element, operated with an effective radiated power of 0.99 Kilowatts in both the horizontal and vertical polarization. At 2 meters above the surface, at 30 meters from the base of the tower, this proposal will contribute worst case, 0.317 microwatts per square centimeter, or 0.03 percent of the allowable ANSI limit for controlled exposure, and 0.16 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.

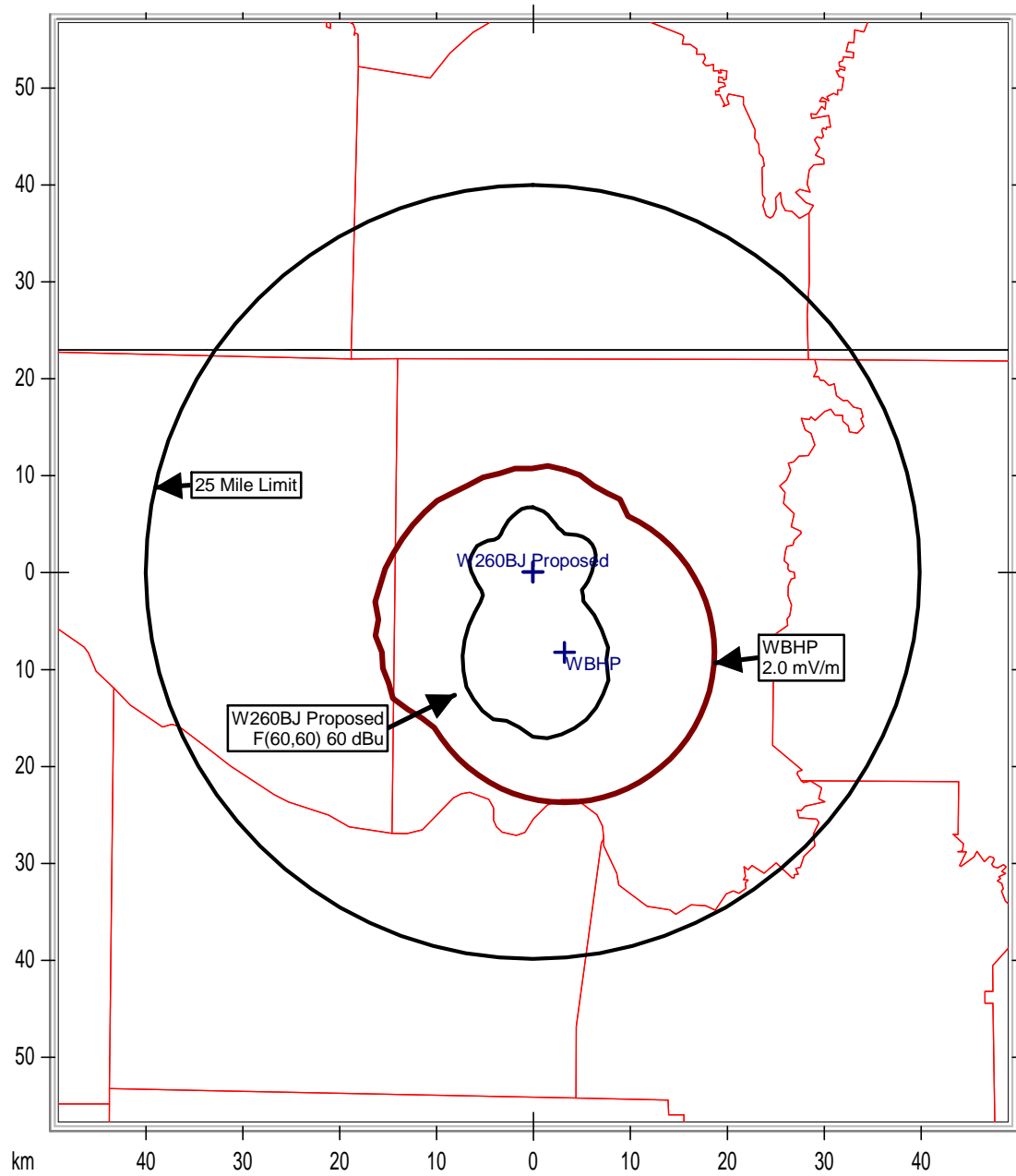
**Figure 1. Spacing/Clearance Table**

Callsign	Channel	ERP_w	ARN	Class	Status	Dist_km	Sep	Clr	Clr Notes
WDRM	271	100000	BMLH-20060413ACH	C1	LIC	0.04	0	-86.92 dB	Living Way
WYFD	219	9000	BLED-19951006KA	C2	LIC	0.97	15	-14	IF <100W
W273AJ	273	19	BLFT-20061218AAG	D	LIC	28.59	0	0.27 dB	Clear
W275AA	275	10	BLFT-19960229TB	D	LIC	10.82	0	0.58 dB	Clear
WEUP-FM	276	11500	BLH-20000502AAP	C3	LIC	57.72	0	8.33 dB	Clear
WDXB	273	90000	BLH-20080613AAJ	C1	LIC	151.48	0	9.31 dB	Clear
WWFA	274	10000	BLH-20100824AAJ	C3	LIC	79.82	0	15.12 dB	Clear
WBUZ	275	100000	BMLH-20021209ABP	C1	LIC	111.67	0	15.98 dB	Clear
WPRT-FM	273	100000	BLH-20031124ASU	C1	LIC	177.27	0	27.67 dB	Clear
W273BS	273	10	BLFT-20111212ABW	D	LIC	175.43	0	33.10 dB	Clear
WKXX	275	1100	BLH-19910909KD	A	LIC	98.9	0	35.13 dB	Clear
WBDX	274	320	BLH-19920911KE	A	LIC	113.49	0	36.29 dB	Clear
W272CE	272	19	BLFT-20120523ADQ	D	LIC	85.02	0	37.36 dB	Clear
WFTA	270	50000	BLH-19870707KC	C2	LIC	184.92	0	38.88 dB	Clear
WJLJ	276	50000	BLH-19890814KF	C2	LIC	192.54	0	39.77 dB	Clear
WSOJ-LP	273	52	BLL-20030716ADX	LP100	LIC	125.18	24	39.57 dB	Clear
WJLJ	276	35000	BPH-20170221ACQ	C2	APP	184.41	0	39.19 dB	Clear

**Figure 2. Proposed Location Aerial Image**



Figure 3. Contour and Distance Map



— National Borders — County Borders — State Borders