

## Minor Change K243CA; BLFT-20150304AAI Facility ID No. 138341

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This exhibit is for minor change of translator permit for K243CA Facility ID No. 138341, BLFT-20150304AAI. It specifies a minor change in channel only, from channel 243 to channel 245, and a power increase to 250 watts.

### **Antenna Location**

The antenna is mounted on an existing tower identified by registration number 1043706 at 122 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 **second** adjacent channel station KHKI(FM).

### **73.1204 Compliance**

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 near the proposed translator antenna location.

*Concerning KHKI(FM)*; In **Figure 2** a map showing the predicted 89 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 129 dBu (89 + 40) 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 129 dBu signal developed by 250 watts, as proposed, emitted by the proposed antenna mounted 122 meters above ground, will not reach habitable areas within 2 meters of the ground. With examination of the image in **Figure 4** it can be determined that no habitable space exists near the antenna.

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 and Minor Change Status**

This proposal is to continue service as a fill-in translator for station KDRB, Facility ID 51332, Des Moines, Iowa. The map of **Figure 5** demonstrates that the proposed 60 dBu contour is contained within the 60 dBu of the KDRB facility.

### **RF Fields Statement**

The proposed facilities were evaluated in terms of potential radio frequency fields 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 **FMVMP**, a one (1) element, vertical antenna, mounted 122 meters above ground. As this element type is not modeled in any current RF Fields calculation computer program, for purposes of this analysis the FM Model RF Fields program has been set to calculate values for an array of "worst case" type of antenna element(s) "Ring Stub", operated with an effective radiated power of 0.25 Kilowatts in the Vertical plane. At 2 meters above the surface, at 22 meters from the base of the tower, this proposal will contribute worst case, 0.83 microwatts per square centimeter, or 0.1 percent of the allowable ANSI limit for controlled exposure, and 0.5 percent of the allowable limit for uncontrolled exposure. This figure is less than 5.0% 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 5.0% 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.

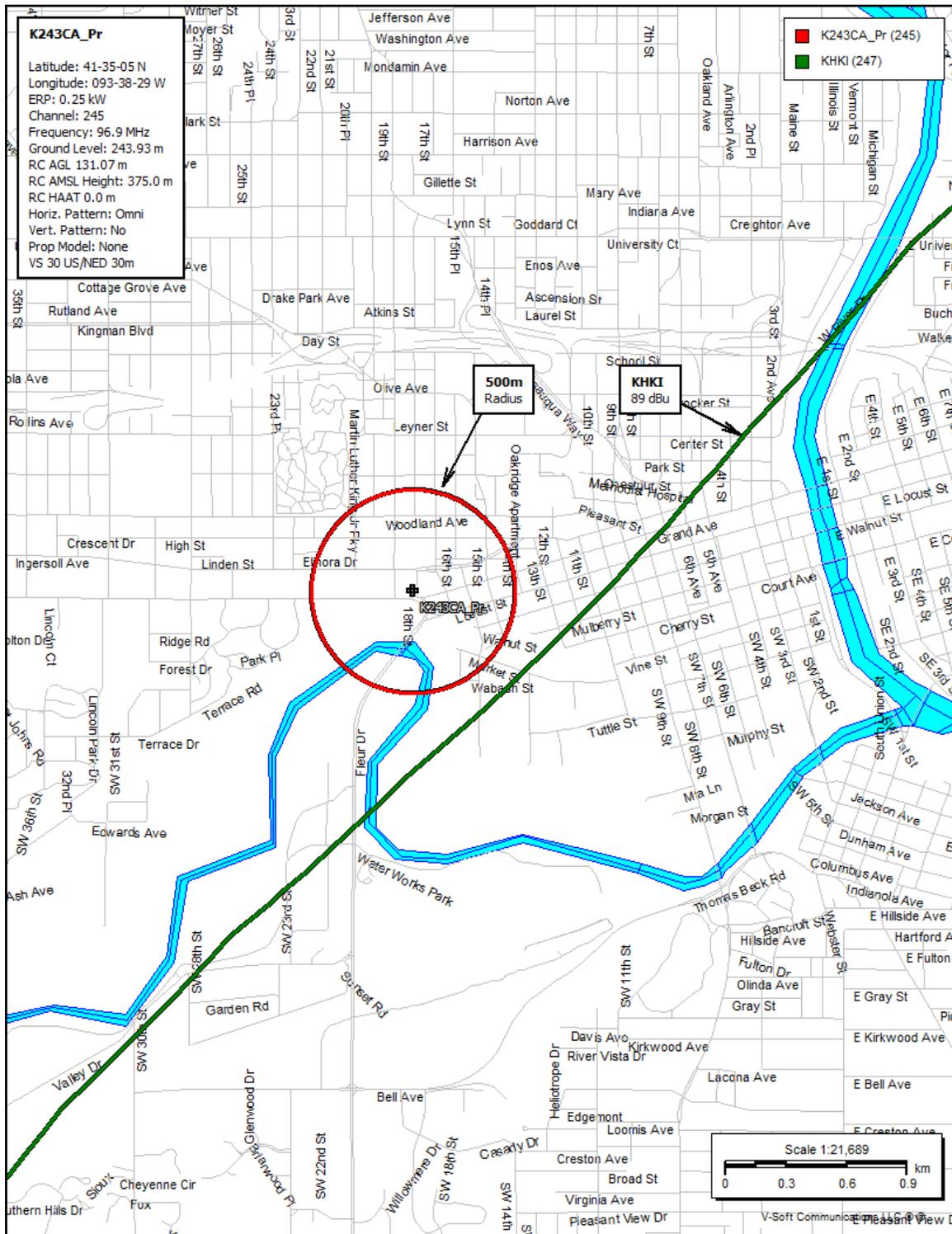
Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation,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

K243CA to CH 245 Citicasters Licenses, Inc.											
REFERENCE		CH# 2450 - 96.9 MHz, Pwr= 0.102 kw, HAAT= 0.0 M, COR= 375 M						DISPLAY DATES			
41 35 05.0 N.		Average Protected F(50-50)= 5.66 km						DATA 09-09-16			
93 38 29.0 W.		Omni-directional						SEARCH 09-09-16			
CH CITY	CALL	TYPE ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*	
247C1	KHKI	LIC_CX IA	312.3 132.2	12.92 BLH20060515AAB	41 39 46.0 93 45 23.0	105.000 143	7.3 425	59.3	-4.0	-47.1*	Radio License Holding Cbc,
245C1	KIAQ	LIC_CN IA	340.9 160.6	127.92 BLH19870120KA	42 40 18.0 94 09 11.0	100.000 176	159.4 518	61.9	-42.6*	28.2	Alpha 3e Licensee LLC
243D	K243CA	LIC_V_ IA	0.0 0.0	0.00 BLFT20150304AAI	41 35 05.0 93 38 29.0	0.102	0.7 375	11.1	-11.8*	-11.8*	Citicasters Licenses, Inc.
298C1	KKDM	LIC_CN IA	77.2 257.5	30.10 BLH19980202KG	41 38 38.0 93 17 20.0	100.000 220	0.0 485	0.0	21.5R	8.6M	Clear Channel Broadcasting
This permit is independent of permit BMPH-950921ID.											
242A	KICL	LIC_CX IA	127.2 307.5	42.87 BLH20110901ACQ	41 21 04.0 93 13 58.0	6.000 78	2.6 335	26.4	29.1	15.7	Iowa State University of S
244C3	KIIC	LIC_CX IA	129.7 310.3	99.48 BLH20120103ABP	41 00 38.0 92 43 47.0	10.000 141	54.4 404	36.0	34.0	47.5	waveguide Communications I
243C1	KSOM	LIC_CN IA	260.9 80.1	100.88 BLH19950817KB	41 26 07.0 94 50 00.0	100.000 161	7.1 556	58.5	83.4	41.7	Meredith Communications L.
245C2	KZBK	LIC_CN MO	165.5 345.8	192.12 BLH19960117KC	39 54 32.0 93 04 34.0	50.000 150	135.8 401	50.3	45.6	105.4	Best Broadcasting, Inc.
From Channel 249A per D88-435											
244L1	KCRM-LP	LIC_ ___ IA	49.4 229.8	79.71 BLL20151029AHJ	42 02 56.0 92 54 35.0	0.100 30	322	61.0		58.8	Marshalltown Association F
242D	K242BX	LIC_C_ IA	49.4 229.8	79.52 BLFT20090601AIE	42 02 52.0 92 54 41.0	0.250 29	1.1 317	7.1	67.7	71.7	University Of Northwestern
246A	KMYQ	LIC_CX IA	96.0 277.0	128.70 BLH20120123ABO	41 27 13.0 92 06 34.0	3.900 40	25.0 280	16.9	92.0	94.6	Justin A Mcluckie
245C1	KZKX	LIC_CX NE	260.2 78.0	272.07 BLH20160408AAU	41 07 23.6 96 50 03.7	100.000 183	162.1 614	64.0	99.6	172.7	Alpha 3e Licensee LLC

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 strikeout 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.

**Figure 2. Contour Map**



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

<p>Proposed Antenna: Scala FMMP-2                  Proposed Power: 0.25 kW                  Antenna Height AGL: 122 meters                  Interference Contour: 129 dBu f(50:10)                  Artificial Rcv Antenna Height: 2 meters</p> <p>Distance (Free Space) Equation: <math>= (10^{((106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]) / 20)) * 1000}</math>                  Field Strength (dBu) Equation: <math>= 106.92 - (20 * (\text{LOG}_{10}[\text{DistMeters} / 1000])) + [\text{ERP in dBk}]</math></p>								
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	39.35 m	infinite	---	infinite	---
-5°	0.967	0.234	-6.31	38.05 m	1376.85 m	97.83 dBu	1399.79 m	97.69 dBu
-10°	0.873	0.191	-7.20	34.35 m	691.05 m	102.93 dBu	702.57 m	102.79 dBu
-15°	0.726	0.132	-8.80	28.57 m	463.64 m	104.79 dBu	471.37 m	104.65 dBu
-20°	0.545	0.074	-11.29	21.45 m	350.86 m	104.72 dBu	356.70 m	104.58 dBu
-25°	0.350	0.031	-15.14	13.77 m	283.94 m	102.72 dBu	288.68 m	102.57 dBu
-30°	0.163	0.007	-21.78	6.41 m	240.00 m	97.54 dBu	244.00 m	97.40 dBu
-35°	0.010	0.000	-46.02	0.39 m	209.21 m	74.49 dBu	212.70 m	74.34 dBu
-40°	0.119	0.004	-24.51	4.68 m	186.69 m	96.99 dBu	189.80 m	96.84 dBu
-45°	0.198	0.010	-20.09	7.79 m	169.71 m	102.24 dBu	172.53 m	102.10 dBu
-50°	0.235	0.014	-18.60	9.25 m	156.65 m	104.42 dBu	159.26 m	104.28 dBu
-55°	0.240	0.014	-18.42	9.44 m	146.49 m	105.19 dBu	148.93 m	105.04 dBu
-60°	0.222	0.012	-19.09	8.74 m	138.56 m	104.99 dBu	140.87 m	104.85 dBu
-65°	0.189	0.009	-20.49	7.44 m	132.41 m	103.99 dBu	134.61 m	103.85 dBu
-70°	0.148	0.005	-22.62	5.82 m	127.70 m	102.18 dBu	129.83 m	102.04 dBu
-75°	0.105	0.003	-25.64	4.11 m	124.23 m	99.40 dBu	126.30 m	99.25 dBu
-80°	0.060	0.001	-30.46	2.36 m	121.85 m	94.75 dBu	123.88 m	94.60 dBu
-85°	0.018	0.000	-40.92	0.71 m	120.46 m	84.39 dBu	122.47 m	84.24 dBu
-90°	0.023	0.000	-38.79	0.91 m	120.00 m	86.55 dBu	122.00 m	86.41 dBu

**Figure 4. Image of Proposed Support Tower**



**Figure 5. Fill-in and Minor Change Contour Map**

