

# Comprehensive Engineering Exhibit

## Long Form Application of BNPFT - 20030317BAB

### Facility ID No. 138341

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This exhibit is for the Long Form application of translator application BNPFT - 20030317BAB. The only modification being sought is a change of location, antenna type, antenna pattern, and radiated power.

#### Antenna Location

The proposed antenna is to be mounted on an existing tower identified by registration number 1043706. It is also the support tower for several broadcasts. The non-directional antenna will be mounted at 90 meters above ground, to serve as a fill-in translator for station KPTL (FM) Facility ID No 69635 Ankeny, IA. Below as **Figure 1** is an overlap and spacing study from which it can be determined that this proposal has no prohibited contour overlap with any other facility.

#### 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 **Scala FMVMP-1 1-** element antenna 90 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 0.190 Kilowatts in the vertical plane. At 2 meters above the surface, at 20.4 meters from the base of the tower, this proposal will contribute worst case, 0.8 microwatts per square centimeter, or 0.08 percent of the allowable ANSI limit for controlled exposure, and 0.40 percent of the allowable limit for uncontrolled exposure. This figure is less than 5% 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**

138341 @ 1043706 90 Agl 190w Citicasters Licenses, L.p.											
REFERENCE		CH# 243D - 96.5 MHz, Pwr= 0.19 kw, HAAT= 98.2 M, COR= 343 M						DISPLAY DATES			
41 35 05.0 N.		Average Protected F(50-50)= 11.93 km						DATA 09-26-13			
93 38 29.2 W.		omni-directional						SEARCH 09-27-13			
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)	
243C1	KSOM	LIC	_CN	260.9	100.88	41 26 07.0	100.000	154.9	58.5	-64.1*	8.4
Audubon	IA			80.1	BLH19950817KB	94 50 00.0	161	556	Meredith Communications L.		
243D	628459	APP	_C_	86.9	8.63	41 35 20.0	0.250	45.8	13.4	-48.4*	-43.3*
Millman	IA			266.9	BNPFT20030317BAB	93 32 17.0	98	362	Citicasters Licenses, L.p.		
242A	KICL	LIC	_CX	127.2	42.87	41 21 04.0	6.000	40.8	26.4	-9.1	0.3
Pleasantville	IA			307.5	BLH20110901ACQ	93 13 58.0	78	335	Iowa State University Of S		
241A	KNWM	LIC	ZCX	346.9	30.41	41 51 05.0	6.000	2.4	26.7	16.3	2.7
Madrid	IA			166.9	BLED20091120AGI	93 43 29.0	100	396	University Of Northwestern		
243C1	KKSY-FM	LIC	_CX	72.8	173.43	42 01 40.0	100.000	157.6	60.6	4.8	75.6
Cedar Rapids	IA			254.1	BMLH20050908ACY	91 38 25.0	158	411	Citicasters Licenses, Inc.		
240A	KCOB-FM	LIC	_CN	71.7	54.43	41 44 11.0	5.100	2.9	30.4	40.6	23.1
Newton	IA			252.1	BLH19930628KF	93 01 12.0	108	385	Newton License Co, LLC		
244C3	KIIC	LIC	_CX	129.7	99.48	41 00 38.0	10.000	54.4	36.0	34.0	47.7
Albia	IA			310.3	BLH20120103ABP	92 43 47.0	141	404	waveguide Communications I		
296C2	KNWI	LIC	_CX	196.6	64.72	41 01 34.0	27.000	0.0	0.0	15.0R	49.7M
Osceola	IA			16.4	BMLE20041101AFU	93 51 43.0	198	540	University Of Northwestern		
242D	K242BX	LIC	_C_	49.4	79.52	42 02 52.0	0.250	10.1	7.1	58.8	57.7
Marshalltown	IA			229.8	BLFT20090601AIE	92 54 41.0	29	317	University Of Northwestern		
244L1	KCRM-LP	LIC	---	49.4	79.71	42 02 56.0	0.100			61.2	59.4
Marshalltown	IA			229.8	BLL20031223AAE	92 54 35.0	17	305	Marshalltown Association F		
245C1	KIAQ	LIC	_CN	340.9	127.92	42 40 18.0	100.000	7.8	61.9	109.1	65.1
Clarion	IA			160.6	BLH19870120KA	94 09 11.0	176	518	Three Eagles of Fort Dodge		

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.  
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.