

# Minor Modification of Permit K256AE; BLFT-19940808TB Facility ID No. 6544

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This exhibit is for minor modification of translator permit for K256AE Facility ID No. 6544, BLFT-19940808TB. It specifies a change in location, antenna elevation, and antenna model only.

## **Antenna Location**

The proposed antenna is to be mounted on an existing tower identified by registration number 1044646 at 12 meters above ground, having a horizontal plane azimuth gain pattern as given in **Figure 0** below. 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 KJMY; and KBEE, while protecting all other **authorized** commercial or noncommercial educational FM broadcast stations, FM translators, and Class D (secondary) noncommercial educational FM stations.

## **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 KJMY and KBEE;* In **Figure 2** a map showing the predicted 87.6 dBu signal contour of the protected facilities at the proposed translator antenna location is given. This proposal can only cause predicted interference to the protected facility by having a signal exceeding 127.6 dBu (87.6 + 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 127.6 dBu signal developed by 250 watts, as proposed, emitted by the proposed antenna mounted 12 meters above ground, will not reach habitable areas or ground level except in areas within 46.2 meters of the tower. With examination of the image in **Figure 4** it can be determined that no habitable space exists within the confines of this distance radius (50 m distance shown for simplicity) except for the equipment shelter(s) and site access road, both areas not considered to require protection. 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 serve as a fill-in translator for station KJMY Facility ID 6543, Bountiful, UT. The map of **Figure 5** demonstrates that the proposed 60 dBu contour is contained within that of the

KJMY facility. It can also be seen that the proposed and permitted facilities have service contour overlap.

### **RF Fields Statement**

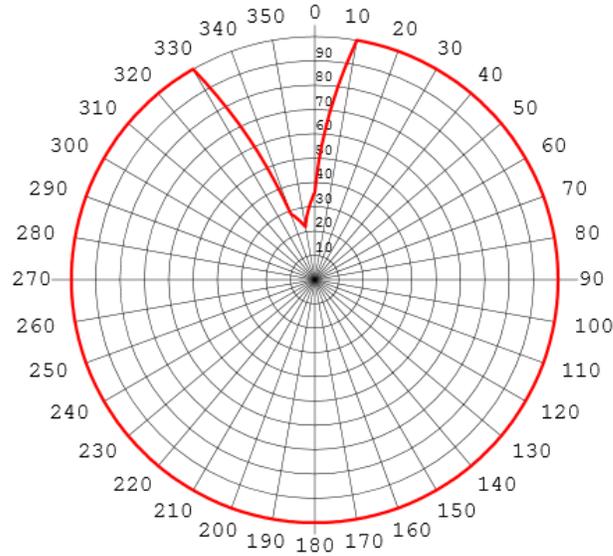
The proposed facilities were evaluated in terms of potential radio frequency fields exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation."

The proposed antenna system is an **array of two(2) Scala CA2-FM/CP elements** mounted 12 meters above ground in the same plane. As this element type is not modeled in any current RF Fields calculation computer program. For this analysis the FCC provided "FM Model" page was set to determine values for a worst case "ring and stub" element operating at 250 watts in both H and V. At 2 meters above ground, at 2.69 meters from the base of the tower, this proposal will contribute worst case, 100.5 microwatts per square centimeter, or 10.05 percent of the allowable ANSI limit for controlled exposure, and 50.25 percent of the allowable limit for uncontrolled exposure. 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 0. Antenna Pattern**

### Antenna Pattern Limits



Azi	Rel	dBk	kW	dB	Azi	Rel	dBk	kW	dB
0	0.360	-14.89	0.032	-8.87	180	1.000	-6.02	0.250	0.00
10	1.000	-6.02	0.250	0.00	190	1.000	-6.02	0.250	0.00
20	1.000	-6.02	0.250	0.00	200	1.000	-6.02	0.250	0.00
30	1.000	-6.02	0.250	0.00	210	1.000	-6.02	0.250	0.00
40	1.000	-6.02	0.250	0.00	220	1.000	-6.02	0.250	0.00
50	1.000	-6.02	0.250	0.00	230	1.000	-6.02	0.250	0.00
60	1.000	-6.02	0.250	0.00	240	1.000	-6.02	0.250	0.00
70	1.000	-6.02	0.250	0.00	250	1.000	-6.02	0.250	0.00
80	1.000	-6.02	0.250	0.00	260	1.000	-6.02	0.250	0.00
90	1.000	-6.02	0.250	0.00	270	1.000	-6.02	0.250	0.00
100	1.000	-6.02	0.250	0.00	280	1.000	-6.02	0.250	0.00
110	1.000	-6.02	0.250	0.00	290	1.000	-6.02	0.250	0.00
120	1.000	-6.02	0.250	0.00	300	1.000	-6.02	0.250	0.00
130	1.000	-6.02	0.250	0.00	310	1.000	-6.02	0.250	0.00
140	1.000	-6.02	0.250	0.00	320	1.000	-6.02	0.250	0.00
150	1.000	-6.02	0.250	0.00	330	1.000	-6.02	0.250	0.00
160	1.000	-6.02	0.250	0.00	340	0.288	-16.83	0.021	-10.81
170	1.000	-6.02	0.250	0.00	350	0.221	-19.13	0.012	-13.11

Rotation Angle = 0

Array of 2, CA2-FM/CP

**Figure 1. Overlap and Spacing Study**

K256AE New TL ASR 1044646 DA Rev 1 15-Dec-2016  
Citicasters Licenses, Inc.

REFERENCE CH# 256D - 99.1 MHz, Pwr= 0.25 kW DA, HAAT= 278.2 M, COR= 1823 M DISPLAY DATES  
40 48 29.2 N. DATA 12-15-16  
111 53 22.2 W. SEARCH 12-15-16  
Average Protected F(50-50)= 21.75 km  
Standard Directional

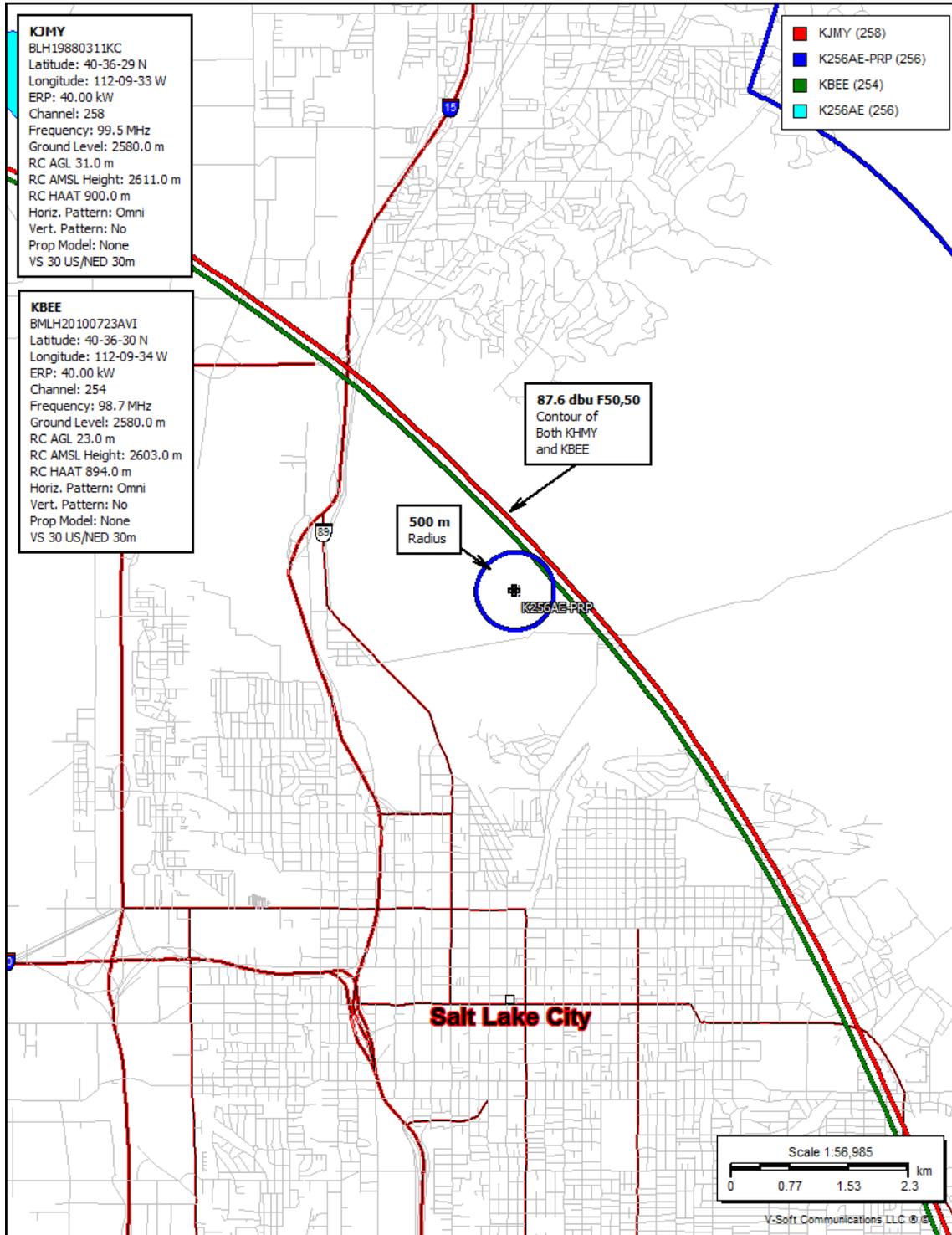
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CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(KW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
256D	K256AE	LIC_CN UT		182.8 2.7	59.67 BLFT19940808TB	40 16 19.0 111 55 24.0	0.250 814	105.1 2312	39.9 Citicasters Licenses, Inc.	-75.1*	-67.5*
256C1	KNYN	LIC_C_ WY		53.3 234.0	102.19 BMLH20030213AAB	41 21 10.0 110 54 26.0	27.500 489	167.2 2662	76.0 M. Kent Frandsen	-72.1*	2.4
258C	KJMY	LIC_CY UT		225.7 45.5	31.79 BLH19880311KC	40 36 29.0 112 09 33.0	40.000 900	12.0 2611	97.2 Citicasters Licenses, Inc.	-10.1	-66.5*
254C	KBEE	LIC_C_ UT		225.8 45.6	31.79 BMLH20100723AVI	40 36 30.0 112 09 34.0	40.000 894	12.0 2603	97.1 Radio License Holding Cbc,	-10.0	-66.4*
256A	KGNT	CP_NCX UT		4.2 184.2	111.93 BMPH20120203AAB	41 48 44.0 111 47 30.0	6.000 -47	100.1 1677	38.4 Frandsen Media Company, L1	-10.3	2.9
256D	K256BB	LIC_DC_ UT		350.5 170.4	60.09 BLFT20041006ABM	41 20 28.0 112 00 32.0	0.024 -5	28.4 1582	8.5 Sun Valley Radio, Inc.	18.1	2.7
258D	KJMY-FM2	LIC_DC_ UT		81.1 261.4	34.85 BLFTB20070920ACB	40 51 20.3 111 28 47.7	1.000	0.6 2825	25.6 Citicasters Licenses, Inc.	27.2	8.2
256A	KUDE	LIC_CX UT		182.2 2.2	119.64 BLH20160831AAJ	39 43 58.0 111 56 35.0	0.640 308	66.1 2050	21.7 S1C Divestiture Trust I (w	23.8	10.7
202C3	KCPW-FM	LIC_DCX UT		226.0 45.9	28.28 BLEDD20161205ACB	40 37 53.0 112 07 50.0	0.450 416	0.0 2088	0.0 wasatch Public Media	11.5R	16.8M

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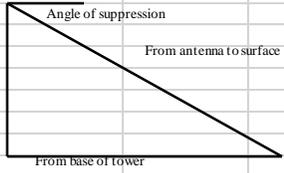
Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
Contour distances are on direct line to and from reference station. Reference zone= , Co to 3rd adjacent.  
All separation margins (if shown) include rounding. Call signs with strikeout need 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**

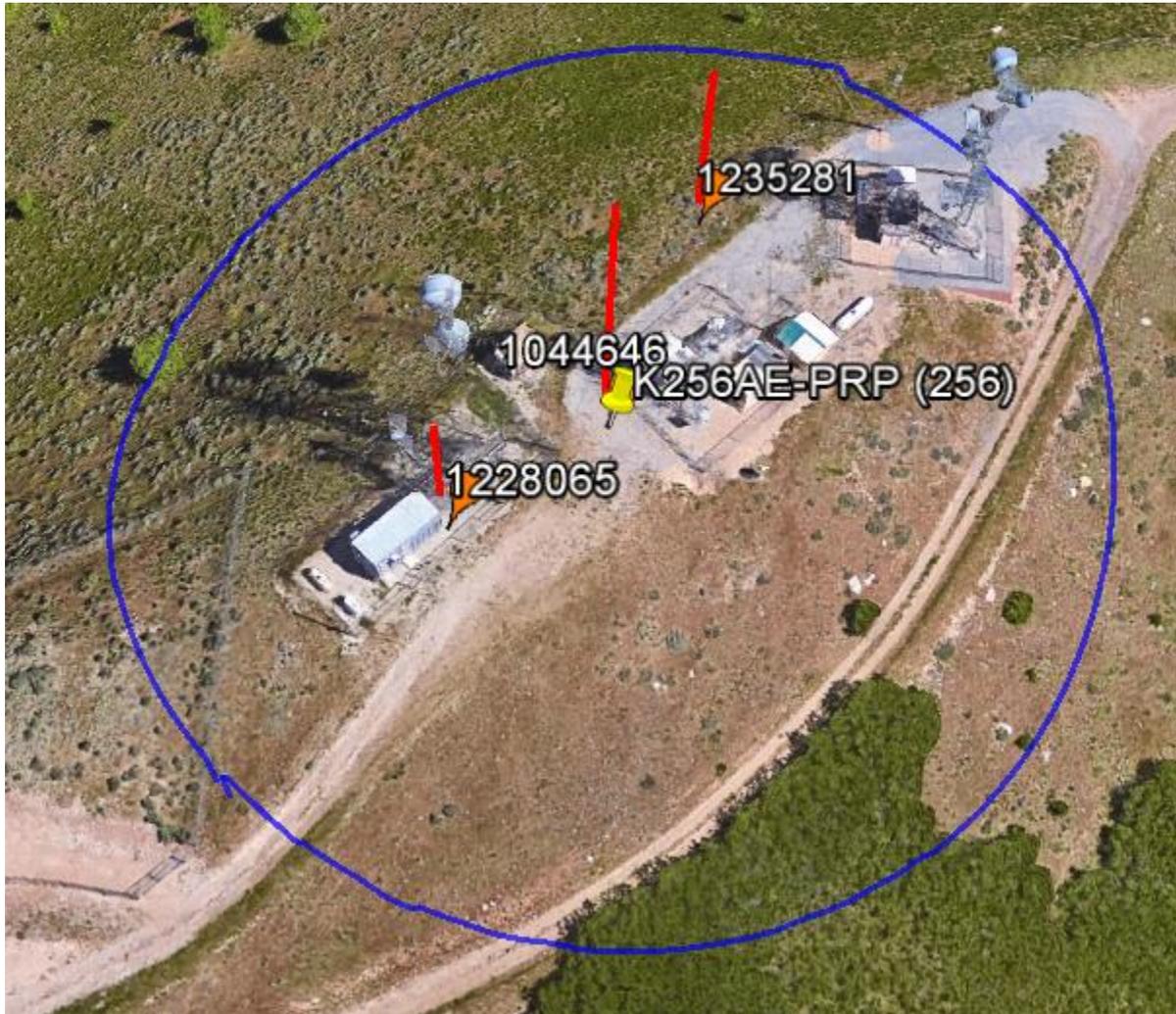


**Figure 3. Signal Level at or Near Ground Level**

Triangle Geometry					
	Known Values			Values	
Angle of Suppression	15	degrees	Distance from the base of tower	44.785	meters
Height of the antenna	12	meters	Distance from antenna to surface	46.364	meters
Distance from the base of tower	44.78	meters			
Distance from antenna to surface	46.364	meters	Height of the antenna	11.999	meters
			Distance from antenna to surface	46.360	meters
			Height of the antenna	12.000	meters
			Distance from the base of tower	44.784	meters
			Angle of Suppression	15.001	degrees
			Distance from antenna to surface	46.360	meters
			Angle of Suppression	15.000	degrees
			Distance from the base of tower	44.784	meters
			Angle of Suppression	15.020	degrees
			Height of the antenna	12.015	meters
ERP	0.25	kw			
Calculated IX contour	127.6	dbu			
			Distance to interfering contour	Height of IX contour above surface	
			meters (hypot)	meters	this value is required.
Relative Field	Downward ERP				
1	1.0000		92.4698	-11.933	
Translator's IX Contour					
Depression Angle from Horizon	Relative Field		ERP on Depres. Angle (kw)	Dist. To IX Contour (m)	Surface (m)
0	1.000		0.2500	46.2349	12.000
5	1.000		0.2500	46.2349	7.970
10	1.000		0.2500	46.2349	3.971
15	1.000		0.2500	46.2349	0.034
20	1.000		0.2500	46.2349	-3.813
25	1.000		0.2500	46.2349	-7.540
30	1.000		0.2500	46.2349	-11.117
35	1.000		0.2500	46.2349	-14.519
40	1.000		0.2500	46.2349	-17.719
45	1.000		0.2500	46.2349	-20.693
50	1.000		0.2500	46.2349	-23.418
55	1.000		0.2500	46.2349	-25.873
60	1.000		0.2500	46.2349	-28.041
65	1.000		0.2500	46.2349	-29.903
70	1.000		0.2500	46.2349	-31.447
75	1.000		0.2500	46.2349	-32.659
80	1.000		0.2500	46.2349	-33.532
85	1.000		0.2500	46.2349	-34.059
90	1.000		0.2500	46.2349	-34.235



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



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

