

Comprehensive Engineering Exhibit

Minor Change Application

Facility ID No. 78074, K230AF

This exhibit is for the minor change application of translator K230AF which is seeking to become fill in for standard band station KCQL, and to add a directional antenna to facilitate this action.

Antenna Location

No change in antenna location, height, or power is being requested, only the replacement of the current non-directional antenna with a directional one. Below as [Figure 1](#) is a spacing study from which it can be determined that this proposal has no prohibited contour overlaps with any other authorized facility. This application does correct the tower location by 1 second latitude and elevation by 1 meter.

Fill-in Qualification

Below as [Figure 2](#) is a contour and distance map from which it can be determined that this proposal has no prohibited contour extension and is contained within the required radius.

RF 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 FMV-MP, 1- element antenna mounted 40 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 of "Ring Stub", operated with an effective radiated power of 0.25 Kilowatts in the vertical plane. At 2 meters above the surface, at 9 meters from the base of the tower, this proposal will contribute worst case, 5.5 microwatts per square centimeter, or 0.55 percent of the allowable ANSI limit for controlled exposure, and 2.75 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. Spacing Study

K230AF Overlap Study											
Capstar TX LLC											
REFERENCE CH# 230D - 93.9 MHz, Pwr= 0.25 kw DA, HAAT= 158.0 M, COR= 1894 M DISPLAY DATES											
36 39 48.0 N. DATA 10-05-12											
108 12 55.0 W. Average Protected F(50-50)= 16.41 km SEARCH 10-08-12											
Standard Directional											
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)
230D	K230AF	LIC_VN		0.0	0.03	36 39 49.0	0.250	31.9	9.6	-51.0*	-69.1*
	Kirtland	NM		180.0	BLFT19971201TH	108 12 55.0	158	1893	Capstar TX LLC		
Translator For KTRA, Farmington, NM- Vertical Polarization Only											
230D	K230AC	LIC_DCN		26.1	86.76	37 21 50.0	0.051	70.4	21.4	-3.9	3.2
	N. La Plata County, CO			206.4	BLFT19940203TB	107 46 57.0	560	3023	Board of Trustees For Fort		
Translator for KDUR, Durango, CO											
229C0	XXXI	LIC_CX		200.1	124.86	35 36 22.0	100.000	119.2	80.3	-1.5	34.2
	Gallup	NM		19.8	BLH20090708AJA	108 41 26.0	420	2480	Millennium Media, Inc.		
283C	KKFG	LIC_CX		93.3	38.84	36 38 33.0	100.000	0.0	0.0	28.5R	10.3M
	Bloomfield	NM		273.6	BMLH20090731ABV	107 46 54.0	331	2188	Capstar TX LLC		
231D	K231BB	LIC_VL		288.2	43.54	36 47 04.0	0.010	4.4	3.2	25.6	20.0
	Shiprock	NM		107.9	BLFT20070618AAU	108 40 44.0		1500	Edgewater Broadcasting, In		
227C2	KKDC	LIC_CX		343.0	93.26	37 27 59.0	50.000	7.5	60.7	67.6	31.6
	Dolores	CO		162.8	BMLH20040324AFK	108 31 28.0	103	2197	Four Corners Broadcasting		
233C0	KYAT	LIC_CX		200.1	124.86	35 36 22.0	100.000	11.7	80.3	106.0	43.9
	Gallup	NM		19.8	BMLH20120514AEP	108 41 26.0	420	2480	Millennium Media, Inc.		
231C	KKKK	LIC_CY		15.1	192.68	38 20 16.0	100.000	127.1	85.4	46.6	79.2
	Montrose	CO		195.4	BLH19961009KC	107 38 23.0	574	3094	CCR-montrose Iv, LLC		
229D	637456	APP_C_		338.7	81.92	37 21 01.0	0.092	7.8	5.5	56.1	49.5
	Cortez	CO		158.5	BNPFT20030317CSO	108 33 08.7	-49	1949	Radio Assist Ministry, Inc		
227C2	KKDC	CP_NCX		340.7	80.98	37 21 05.0	50.000	2.7	26.5	60.1	53.5
	Dolores	CO		160.5	BPH20120521BFI	108 31 06.0	-67	1954	Four Corners Broadcasting		
232D	632972	APP_C_		336.3	83.21	37 20 56.0	0.170	0.9	6.4	64.4	75.9
	Cortez	CO		156.1	BNPFT20030317IAM	108 35 39.0	-54	1906	Spirit Media		
232D	K232DA	LIC_DV_		25.5	86.18	37 21 46.0	0.007	0.2	13.5	65.8	71.6
	Durango	CO		205.8	BLFT201110406ACU	107 47 40.0	561	2996	Native American Christian		
231C	KZRR	LIC_CY		134.9	226.52	35 12 44.0	22.500	140.6	95.9	72.6	110.6
	Albuquerque	NM		315.9	BLH7522	106 26 58.0	1259	3281	Clear Channel Broadcasting		

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.
 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.
 <= station meets FCC minimum distance spacing for its class.

Figure 2. Contour Map

