

TECHNICAL STATEMENT
K280EQ COLORADO SPRINGS, COLORADO, CH. 284D
CEDAR COVE BROADCASTING, INC.
FCC FORM 349
OCTOBER 2016

This Technical Statement is made in support of a minor modification for FM translator station, K280EQ at Fort Morgan, Colorado, facility ID 151241. K280EQ seeks to relocate its current authorization by less than 250 miles (112 miles in this case) and become a fill-in translator for KFCS(AM) Colorado Springs, Colorado, facility ID 51816. This proposed normally major change move is in response to the Commissions AM Revitalization Order DA-1491 released 12/23/2015. The following will show that the new proposed operation of K280EQ will meet all of the Commissions technical requirements for an FM translator station.

The new proposed operation of K280EQ specifies a maximum Effective Radiated Power of 0.025 kilowatts (25 watts). It will operate with a directional antenna with an “off the shelf” type antenna, or a Scala CA-2-CP with circular polarization. The antenna will be mounted on an existing registered tower, ASR # 1025253, with an overall height of 98 meters above the ground. The antenna will be mounted with a Center of Radiation of 75 meters above the ground, and 1886 meters Above Mean Sea Level. The coordinates of this tower are located at N 38° 49’ 08”, W 104° 46’ 32”, NAD 27.

Figure 1 is a detailed interference study conducted on channel 284D with these new proposed facilities. It shows that the new operation of K280EQ will not cause any interference to any existing or proposed FM stations on any of the pertinent same channel or adjacent channels to channel 284 with the exception of second adjacent channel

station, K286CO(CP) Colorado Springs, Colorado, facility ID 148097, proposed operation on channel 286D.

Figure 2 shows the coverage area for the worse case 100 dB μ interference contour F(50-10) and shows that there is no population in the area of interference. The applicant, Cedar Cove Broadcasting, Inc., respectfully requests a waiver of C.F.R. 74.1204(d) of the Commission's rules based on the fact that there is no population within the area of predicted interference. There are no homes nearby the proposed existing tower site, which is a privately owned on 3 acres with private access. The transmitter building is uninhabited and does not have indoor plumbing. The area around the tower base is fenced. Should any unforeseen actual interference be caused, the licensee will immediately cease broadcasting with K280EQ until such interference can be eliminated.

Figure 3 is the directional antenna data for the proposed Scala CA-2-CP antenna system proposed to be used.

The proposed operation of K280EQ Colorado Springs, Colorado will be considered a "Fill-In" operation for KFCS(AM) Colorado Springs, Colorado. KFCS(AM) operates with 10 kilowatts daytime with a non-directional antenna system on 1580 kHz. Figure 4 shows that the proposed 60 dB μ contour for the proposed K280EQ will not extend beyond the daytime 2.0 mV/m contour of KFCS. It will also not extend beyond a 25 miles radius from the KFCS tower site. Since this is a "Fill-In" translator, the maximum ERP will not exceed the maximum permissible ERP of 250 watts in any azimuth.

There appears to be prohibited overlap with an FM booster station for KSTY Cannon City, Colorado, facility ID 35551, for booster station KSTY-FM1 Colorado

Springs, Colorado, facility ID 162622. However, this record should be removed from the CDBS since this facility is no longer valid. KSTY filed to reduce power with Construction Permit BPH-20070724ABZ (see figure 6 attached), and has since filed a licensed application which has been granted, BLH-20071003ABD. The Construction Permit had a condition that KSTY surrender its license for KSTY-FM1 Colorado Springs since its 60 dB μ service contour for KSTY-FM1 no longer was contained within the KSTY 60 dB μ licensed contour (see Figure 5). Thus, the KSTY-FM1 record should be removed from the CDBS database.

It was found that the new proposed operation of K280EQ Colorado Springs, Colorado on channel 284D, will satisfy all of the required commission rules and regulations for an FM translator station.

FIGURE 1 - DETAILED CHANNEL INTERFERENCE STUDY

K280EQ COLORADO SPRINGS, CO, CH. 284

REFERENCE CH# 284D - 104.7 MHz, Pwr= 0.025 kW DA, HAAT= -67.8 M, COR= 1886 M DISPLAY DATES
 38 49 08.0 N. DATA 10-30-16
 104 46 32.0 W. SEARCH 10-31-16
 Standard Directional

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* (Overlap in km)
284A	KKCS	LIC NCX		63.2	44.83	38 59 57.0	1.550	82.7	29.3	-40.3*	11.5
Calhan		CO		243.5	BMLH20131204AJQ	104 18 47.0	198	2192	United States Cp, Llc		
283C3	KSTY	LIC _CX		214.2	67.59	38 18 54.0	8.600	88.2	58.9	-23.7*	5.1
Canon City		CO		33.9	BLH20071003ABD	105 12 40.0	14	2138	Royal Gorge Broadcasting,		
283D	KSTY-FM1	LIC _C_		222.1	11.03	38 44 43.0	0.003	19.7	10.3	-11.1*	-4.6
Colorado Springs		CO		42.1	BLFTB20050815ABU	104 51 39.0		2957	Royal Gorge Broadcasting L		
285C3	KRYE	LIC _CX		191.4	99.00	37 56 40.0	25.000	102.0	68.7	-6.7*	21.9
Rye		CO		11.3	BLH20080307ADA	104 59 56.0	55	2597	United States Cp, Llc		
286D	K286CO	CP DC_		0.0	0.00	38 49 08.0	0.045	0.3	3.5	-4.1*	-3.9*
Colorado Springs		CO		0.0	BMPFT20160729AOX	104 46 32.0		1900	Cimarron Communications Co		
286C	KXKL-FM	LIC _CN		336.8	94.47	39 36 00.0	100.000	10.0	71.4	80.6	19.0
Denver		CO		156.6	BLH19901023KB	105 12 35.0	356	2448	Kse Radio Ventures, Llc		
286C0	KXKL-FM	CP ZCY		338.3	102.25	39 40 24.4	100.000	9.1	74.4	89.2	24.1
Denver		CO		158.0	BPH20160606ABK	105 13 02.5	344	2364	Kse Radio Ventures, Llc		
282C1	KKFN	LIC NC_		341.1	102.99	39 41 45.0	100.000	10.8	75.5	88.3	26.8
Longmont		CO		160.9	BLH19991214ABH	105 09 54.0	206	2081	Bonneville International C		
285C1	KRYE	CP NCX		137.5	114.59	38 03 20.0	100.000	77.6	47.8	33.0	61.4
Olney Springs		CO		318.1	BPH20130429AE0	103 53 31.0	81	1418	United States Cp, Llc		
284C1	KKVM	LIC _C_		302.8	170.35	39 38 05.0	100.000	130.7	31.0	36.0	108.1
Vail		CO		121.7	BMLH20031119AII	106 26 47.0	102	3015	Cool Radio, Llc		
285C1	KRYE	RSV-A _		126.0	147.50	38 01 54.0	100.000	104.3	71.8	39.5	71.5
Olney Springs		CO		306.9		103 24 53.0	299	1555	United States Cp, Llc		
284D	K284CI	LIC DC_		338.8	108.57	39 43 45.0	0.140	62.6	19.8	42.1	75.3
Denver		CO		158.5	BLFT20160421AAK	105 14 08.0		2259	Mountain Community Transla		
285D	K285EE	LIC DHN		216.6	54.86	38 25 20.0	0.030	2.1	1.6	49.8	51.0
Canon City		CO		36.4	BLFT19910131TA	105 09 05.0	-93	1689	Radio License Holding Cbc,		
281C3	KBVC	LIC NCN		266.7	123.91	38 44 45.0	0.600	1.7	47.8	119.4	75.8
Buena Vista		CO		85.8	BLH19961127KB	106 11 55.0	362	3335	Three Eagles Communication		
284L1	KOMF-LP	LIC _		350.5	107.33	39 46 20.0	0.100			84.8	87.7
Denver		CO		170.4	BLL20160527AB0	104 58 56.1	30	1659	Open Media Foundation		
284C1	KNNG	LIC _CN		36.7	246.36	40 34 57.0	100.000	156.1	59.4	87.0	176.8
Sterling		CO		217.8	BLH19810402AB	103 01 56.0	198	1508	Media Logic Llc		
284D	KKVM-FM3	LIC DV_		309.9	142.01	39 37 51.0	0.175	15.1	4.7	123.2	125.5
Dillon		CO		129.1	BLFTB20090115AFD	106 02 47.0		2786	Cool Radio, Llc		
286D	KXKL-FM1	LIC DC_		343.6	132.19	39 57 37.0	1.500	0.1	2.2	128.2	128.9
Boulder		CO		163.4	BLFTB20030502ABA	105 12 46.0		1762	Kse Radio Ventures, Llc		
287C	R13666	VAC _		159.2	230.76	36 52 21.0	100.000	13.4	90.8	213.1	139.5
Des Moines		NM		339.8		103 51 13.0	600	2576	Caroline Smith		
284L1	KELS-LP	LIC _		1.1	173.87	40 23 05.0	0.061			151.1	155.7
Greeley		CO		181.1	BLL20100524ACP	104 44 11.0	38	1489	Plymouth Gathering Inc.		
284L1	KMKZ-LP	LIC _		352.2	177.62	40 24 12.1	0.035			152.3	158.7
Loveland		CO		172.0	BLL20140827ACQ	105 03 41.1	49	1592	Protecting America's Futur		
284L1	KREV-LP	LIC _		340.4	183.16	40 22 11.0	0.100			160.6	164.9
Estes Park		CO		159.9	BLL20141014ABN	105 30 10.0		2355	United Methodist Church Of		
281C1	KNAB-FM	LIC _CN		75.5	224.03	39 17 41.0	51.000	4.2	39.9	217.7	183.5
Burlington		CO		257.1	BLH19900222KD	102 15 37.0	110	1367	Knab, Inc.		
283C2	KYAP	RSV-A _		337.9	296.44	41 17 02.0	50.000	92.6	63.1	200.0	223.4
Centennial		WY		157.1		106 06 36.0	150	2774	White Park Broadcasting, I		
287D	KZKS-FM2	LIC DVN		287.5	235.02	39 25 30.0	0.060	0.5	29.8	231.2	204.0
Carbondale		CO		105.9	BLFTB19951204TB	107 22 46.0	798	3248	Western Slope Communicatio		

CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	Page #	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	2	(Overlap	in km)
285C1	KRYD	LIC _C_		260.4	303.50	38 18 59.0	24.000	96.7	65.7	204.2	234.0	
Norwood		CO		78.3	BLH20080519AAS	108 11 55.0	512	3074	Rocky Iii Investments, Inc			
287C	KZKS	LIC _HN		284.3	297.92	39 25 57.0	60.000	12.3	89.7	282.4	204.2	
Rifle		CO		102.2	BLH19940928KB	108 07 46.0	743	2690	Western Slope Communicatio			
281C3	KFMU-FM	LIC NCN		311.9	239.46	40 14 10.0	1.400	2.0	24.4	233.7	208.4	
Oak Creek		CO		130.5	BLH19940111KC	106 52 30.0	327	2831	Alwaysmountaintime, Llc			
285C2	KRRR	LIC NCX		1.6	257.19	41 08 04.0	25.500	35.8	22.8	217.5	225.9	
Cheyenne		WY		181.6	BLH20031125AIV	104 41 32.0	35	1859	Brahmin Broadcasting Corpo			
283C2	KYAP	APP NCX		348.5	279.71	41 17 06.0	13.500	57.1	37.8	218.7	233.5	
Centennial		WY		168.0	BPH20160906AAJ	105 26 41.0	284	2702	White Park Broadcasting, I			
283C2	KYAP	CP NCX		348.5	279.71	41 17 06.0	13.500	57.1	37.8	218.7	233.5	
Centennial		WY		168.0	BPH20130124ACV	105 26 41.0	284	2702	White Park Broadcasting, I			
287D	KZKS-FM3	LIC _C_		291.5	234.47	39 33 40.0	0.250	1.1	7.1	229.9	221.3	
Glenwood Springs		CO		109.8	BLFTB20000918AKW	107 18 59.0		2219	Western Slope Communicatio			
287A	DKMGQ	VAC ____		12.7	267.30	41 09 55.0	6.000	2.6	26.2	261.0	239.2	
Pine Bluffs		WY		193.1		104 04 31.0	100	1689	Tracy Broadcasting Corpora			
282C0	KMXY	LIC _CX		275.8	345.47	39 03 56.0	100.000	15.4	96.3	327.0	248.2	
Grand Junction		CO		93.3	BLH20110209ADG	108 44 52.0	446	2245	Townsquare Media Grand Jun			
283C	KKFG	LIC _CX		228.5	358.57	36 38 33.0	100.000	104.9	72.2	251.2	284.7	
Bloomfield		NM		46.6	BMLH20090731ABV	107 46 54.0	331	2188	Capstar Tx, Llc			
282C3	DKKAW	VAC ____		12.2	295.57	41 25 05.0	25.000	4.0	38.7	287.9	256.3	
Albin		WY		192.7		104 01 36.0	100	1692	Chisholm Trail Broadcastin			
287D	KZKS-FM1	LIC DCN		275.8	345.30	39 03 57.0	20.000	7.9	76.3	334.3	268.0	
Grand Junction		CO		93.3	BLFTB19980514TE	108 44 45.0	354	2150	Western Slope Communicatio			
281A	KRDS	LIC _CX		246.9	276.36	37 48 39.0	0.100	0.7	5.6	273.5	270.7	
Silverton		CO		65.1	BLH20140902ACF	107 39 54.0	-620	2853	Mt Communications			
287C3	KXRC	LIC _CX		238.7	324.09	37 15 46.0	16.500	4.5	42.7	317.6	279.5	
Durango		CO		56.7	BLH20130614ACF	107 53 58.0	123	2398	Krj Company			
283A	KYAP	LIC _CX		337.6	298.75	41 17 49.0	0.500	12.1	8.6	282.7	284.4	
Centennial		WY		156.7	BLH20121126ACD	106 08 23.0	33	2455	White Park Broadcasting, I			
281C	KTEG	LIC _CN		205.2	371.21	35 46 50.0	100.000	11.2	77.8	356.6	291.3	
Santa Fe		NM		24.1	BLH19831230AB	106 31 35.0	572	3057	Citicasters Licenses, Inc.			
286C	KKRG-FM	LIC _CX		205.2	371.23	35 46 49.0	100.000	11.2	77.5	356.7	291.6	
Santa Fe		NM		24.1	BLH20080516ABW	106 31 34.0	578	3054	Univision Radio License Co			
287C1	KIOD	LIC _CN		64.6	373.69	40 11 27.0	100.000	7.1	58.6	364.1	313.9	
Mccook		NE		247.1	BLH19951109KF	100 48 29.0	180	992	Legacy Communications, Llc			
286A	KLLM	CP NCX		357.7	359.31	42 03 07.0	0.100	0.7	5.6	354.8	353.4	
Wheatland		WY		177.5	BNPH20130724AGQ	104 57 13.0	6	1462	Kona Coast Radio, Llc			

Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= West 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 restricted contour.
Reference station has protected zone issue: AM tower

* No actual interference will be caused to K286C0(CP) Colorado Springs, Colorado, facility ID 148097, since the worse case 100 DBU interference contour will not reach the ground or cover any population. See the Technical Statement for more details.

** KSTY-FM1 Colorado Springs is no longer in service and record should be deleted. See the Technical Statement for more details.

FIGURE 2 - PREDICTED 100 DBU INTERFERENCE CONTOUR
K280EQ COLORADO SPRINGS, CO, CH 284D

Coverage Study - NGDC 30 SEC
10-31-2016

K280EQ CH284 D , 0.025 kW, -67.8m HAAT, 1886.0m COR AMSL
Interference Contour = 100 dBu. Population = 0

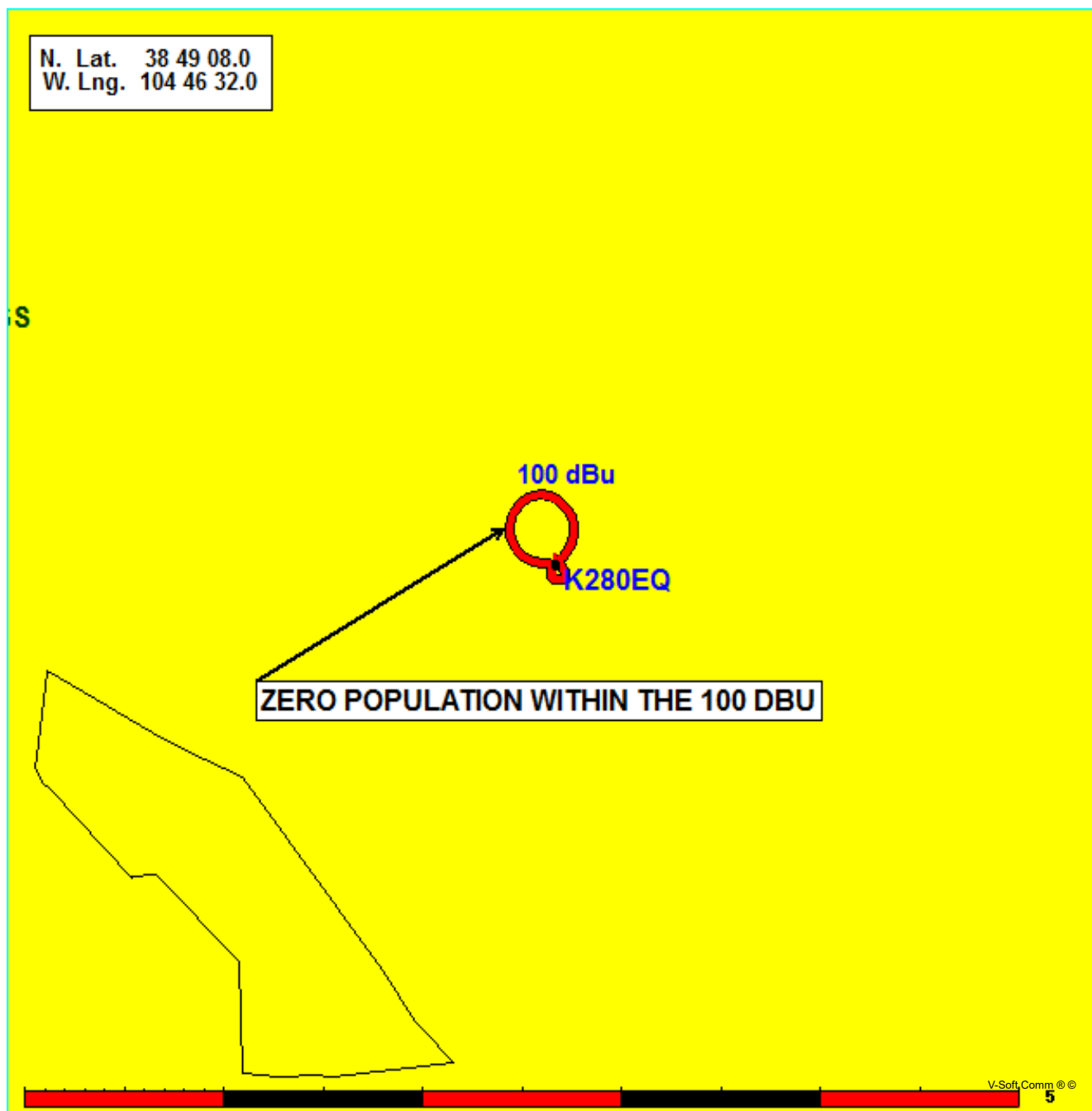


FIGURE 3 - DIRECTIONAL ANTENNA DATA

K280EQ

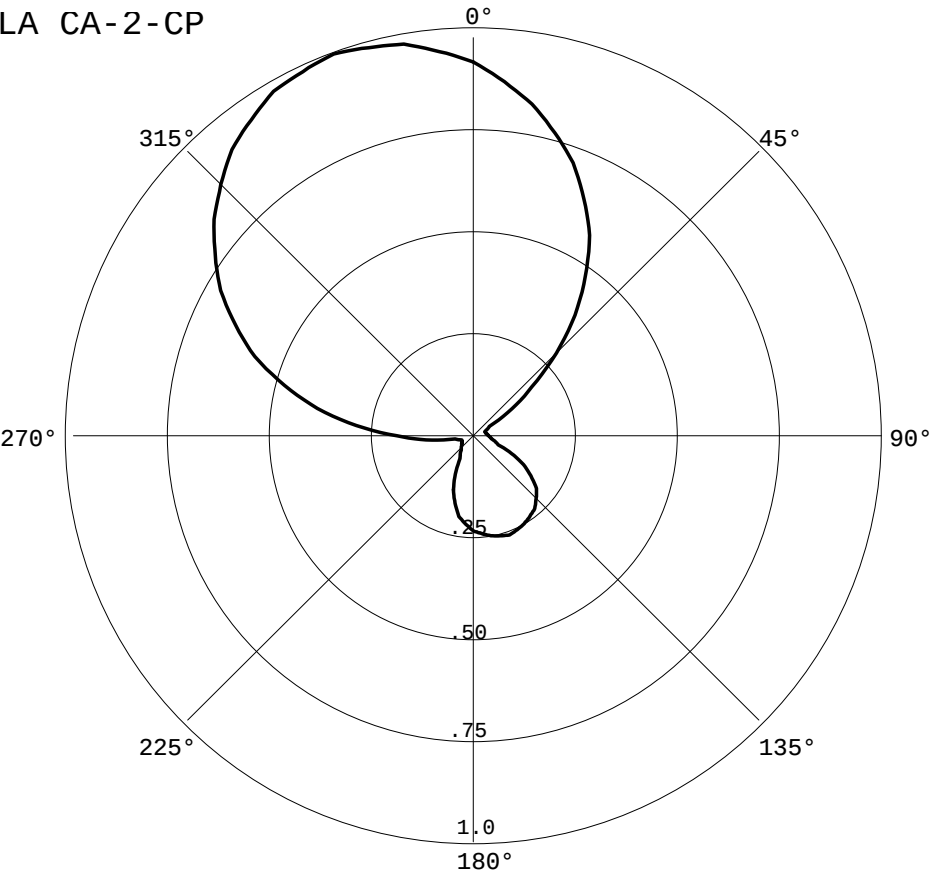
10-31-2016

RMS(V)= .484

Graph is Relative Field

SCALA CA-2-CP

Azi	Field	dBk	kw
000	0.920	-16.745	0.021
010	0.829	-17.650	0.017
020	0.715	-18.934	0.013
030	0.570	-20.903	0.008
040	0.388	-24.244	0.004
050	0.187	-30.584	0.001
060	0.045	-42.956	0.000
070	0.030	-46.478	0.000
080	0.032	-45.918	0.000
090	0.037	-44.657	0.000
100	0.046	-42.765	0.000
110	0.065	-39.762	0.000
120	0.142	-32.975	0.001
130	0.202	-29.914	0.001
140	0.234	-28.636	0.001
150	0.250	-28.062	0.002
160	0.260	-27.721	0.002
170	0.250	-28.062	0.002
180	0.234	-28.636	0.001
190	0.202	-29.914	0.001
200	0.142	-32.975	0.001
210	0.065	-39.762	0.000
220	0.046	-42.765	0.000
230	0.037	-44.657	0.000
240	0.032	-45.918	0.000
250	0.030	-46.478	0.000
260	0.045	-42.956	0.000
270	0.187	-30.584	0.001
280	0.388	-24.244	0.004
290	0.570	-20.903	0.008
300	0.715	-18.934	0.013
310	0.829	-17.650	0.017
320	0.920	-16.745	0.021
330	0.979	-16.205	0.024
340	1.000	-16.021	0.025
350	0.979	-16.205	0.024



K280EQ

BMPFT20160729AOX

Latitude: 38-49-08 N

Longitude: 104-46-32 W

ERP: 0.025 kW

Channel: 284

Frequency: 104.7 MHz

AMSL Height: 1886.0 m

Elevation: 1829.0 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model: Longley/Rice

Climate: Cont temperate

Conductivity: 0.0050

Dielec Const: 15.0

Refractivity: 311.0

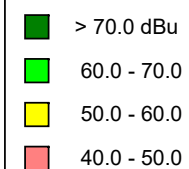
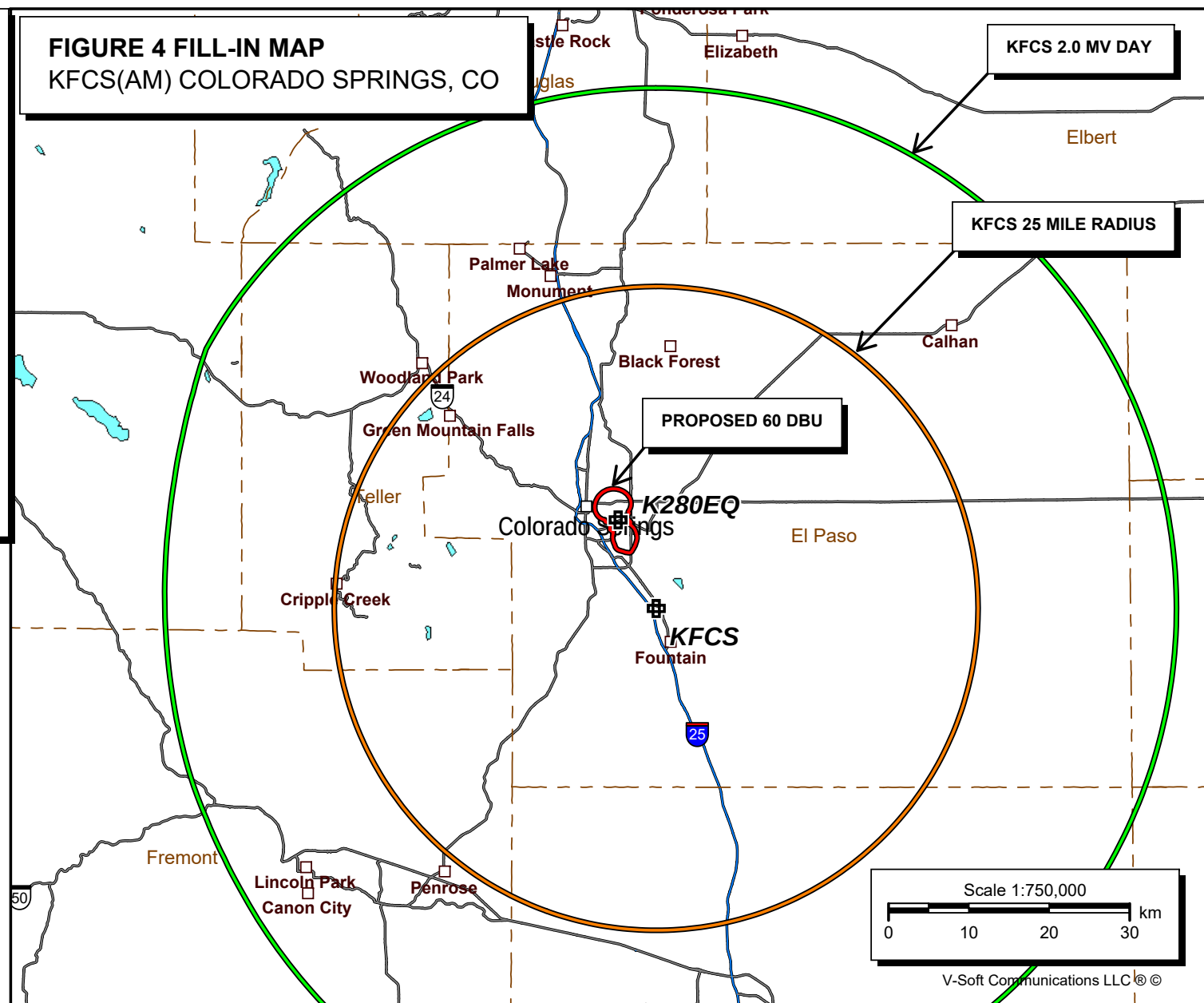
Receiver Ht AG: 9.1 m

Receiver Gain: 0 dB

Time Variability: 50.0%

Sit. Variability: 50.0%

ITM Mode: Broadcast

FIGURE 4 FILL-IN MAP
KFCS(AM) COLORADO SPRINGS, CO**KFCS 2.0 MV DAY****KFCS 25 MILE RADIUS****PROPOSED 60 DBU**

KSTY

BLH20071003ABD

Latitude: 38-18-54 N

Longitude: 105-12-40 W

ERP: 8.60 kW

Channel: 283

Frequency: 104.5 MHz

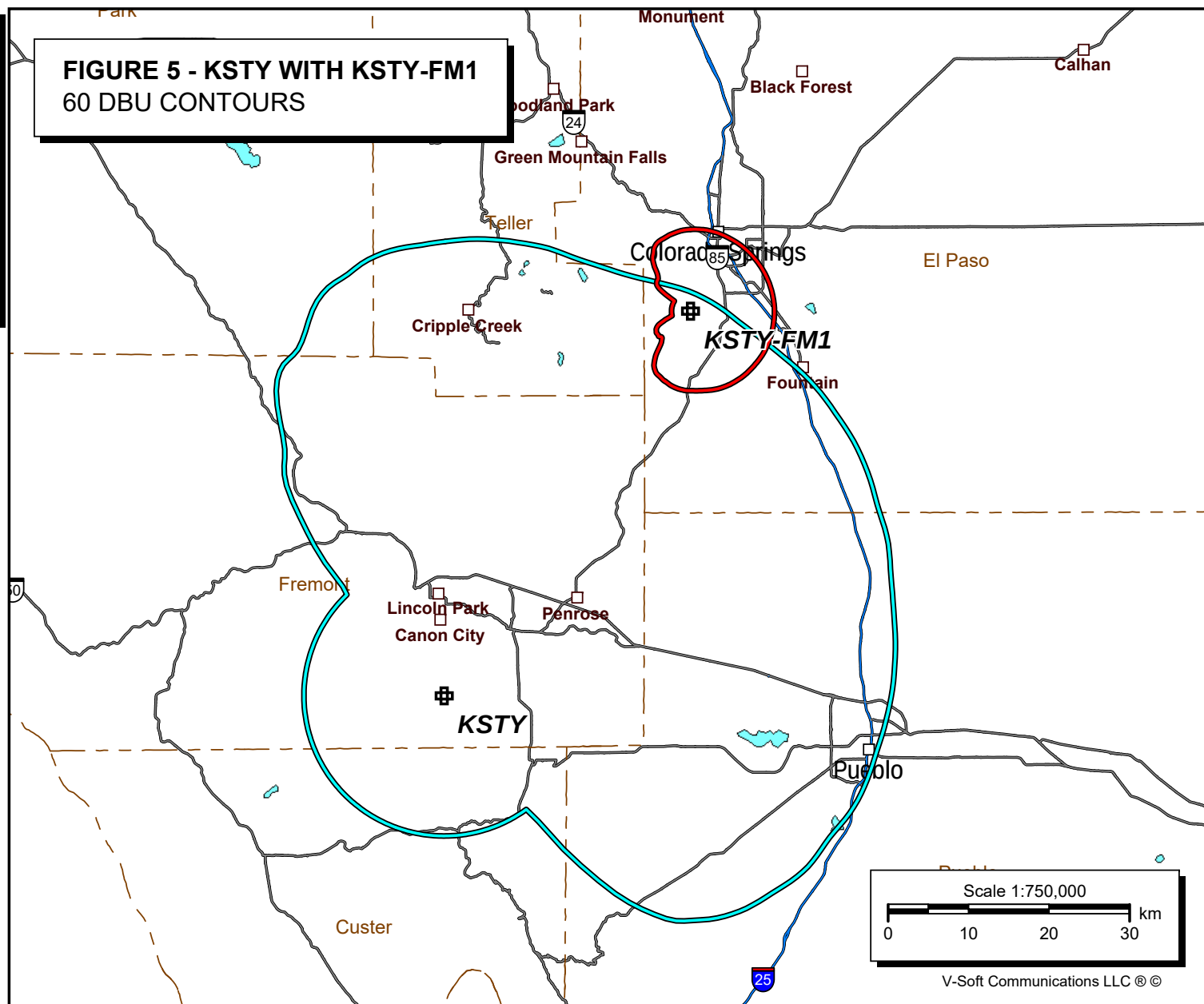
AMSL Height: 2138.0 m

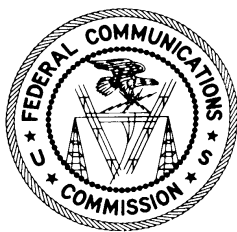
Elevation: 1990.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model:

**FIGURE 5 - KSTY WITH KSTY-FM1
60 DBU CONTOURS**



United States of America
FEDERAL COMMUNICATIONS COMMISSION
FM BROADCAST STATION CONSTRUCTION PERMIT

Authorizing Official:

Official Mailing Address:

ROYAL GORGE BROADCASTING, LLC
969 SHERMAN AVENUE
PLAINFIELD NJ 07063

Dale E. Bickel
Senior Engineer
Audio Division
Media Bureau

Facility ID: 35551

Call Sign: KSTY

Permit File Number: BPH-20070724ABZ

Grant Date: September 13, 2007

This permit expires 3:00 a.m.
local time, September 13, 2010.

Subject to the provisions of the Communications Act of 1934, as amended, subsequent acts and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions set forth in this permit, the permittee is hereby authorized to construct the radio transmitting apparatus herein described. Installation and adjustment of equipment not specifically set forth herein shall be in accordance with representations contained in the permittee's application for construction permit except for such modifications as are presently permitted, without application, by the Commission's Rules.

Commission rules which became effective on February 16, 1999, have a bearing on this construction permit. See Report & Order, Streamlining of Mass Media Applications, MM Docket No. 98-43, 13 FCC RCD 23056, Para. 77-90 (November 25, 1998); 63 Fed. Reg. 70039 (December 18, 1998). Pursuant to these rules, this construction permit will be subject to automatic forfeiture unless construction is complete and an application for license to cover is filed prior to expiration. See Section 73.3598.

Equipment and program tests shall be conducted only pursuant to Sections 73.1610 and 73.1620 of the Commission's Rules.

Name of Permittee: ROYAL GORGE BROADCASTING, LLC

Station Location: CO-CANON CITY

Frequency (MHz): 104.5

Channel: 283

Class: C3

Hours of Operation: Unlimited

Transmitter: Type Accepted. See Sections 73.1660, 73.1665 and 73.1670 of the Commission's Rules.

Transmitter output power: As required to achieve authorized ERP.

Antenna type: Non-Directional

Antenna Coordinates: North Latitude: 38 deg 18 min 54 sec
West Longitude: 105 deg 12 min 40 sec

	Horizontally Polarized Antenna	Vertically Polarized Antenna
Effective radiated power in the Horizontal Plane (kW):	8.6	8.6
Height of radiation center above ground (Meters):	148	148
Height of radiation center above mean sea level (Meters):	2138	2138
Height of radiation center above average terrain (Meters):	14	14

Antenna structure registration number: 1052455

Overall height of antenna structure above ground (including obstruction lighting if any) see the registration for this antenna structure.

Special operating conditions or restrictions:

- 1 The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.
- 2 As such time as program test operations commence pursuant to this construction permit, all operation of FM booster station KSTY-FM1, file number BLFTB-20050815ABU, MUST CEASE, since the 60 dBu contour of the booster would extend beyond the 60 dBu contour authorized by this permit. The licensee may file an application to modify the booster, or the licensee may surrender the license for cancellation concurrently with the application for license to cover construction permit BPH-20070724ABZ.

*** END OF AUTHORIZATION ***