

TECHNICAL STATEMENT
K215FM FORT COLLINS, COLORADO, CH 215D
MOUNTAIN COMMUNITY TRANSLATORS, LLC
FCC FORM 349
DECEMBER 2016

This Technical Statement is in support of FCC form 349 filed by Mountain Community Translators, LLC for a minor change in the licensed facility of K215FM Fort Collins, Colorado, facility ID 158251. It is proposing to increase its Effective Radiated Power from 6 watts to 150 watts, make changes in its directional antenna pattern, and relocate to an existing communication tower site on Horsetooth Mountain with new antenna heights.

Figure 1 shows a channel interference study conducted from the proposed site for K215FM on channel 215D. It shows that the proposed operation of K215FM on channel 215D, will not cause any prohibited outgoing interference to any licensed or proposed FM services, with the exception of KUNC Greeley, Colorado, facility ID 68219, on channel 218C1, and KCSU-FM Fort Collins, Colorado, facility ID 62435, channel 213C3. The proposed operation of K215FM on 215 is located within the protected 60 dBμ contour of 3rd adjacent station KUNC and 2nd adjacent channel KCSU-FM.

Figure 2 shows the coverage area for the worse case 100 dBμ interference contour F(50-10) and shows that there is no population in the area of interference. The applicant, Mountain Community Translators, LLC, 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 20 acre wooded area with private access.

The transmitter building is uninhabited and does not have indoor plumbing.

Figure 3 is the directional antenna data for the proposed antenna.

Figure 4 documents the present and proposed 60 dB μ contours showing that the current operation of K215FM will 60 dB μ overlap with the proposed operation of K215FM on channel 215D.

Figure 5 documents that none of the maximum Effective Radiated Power limits will be exceeded for a non-fill-in translator.

It was concluded that the new proposed operation of K215FM Fort Collins, Colorado on channel 215D will not cause any harmful interference to any existing stations, and will be in full compliance with the commission's rules.

FIGURE 1 - DETAILED CHANNEL INTERFERENCE STUDY

K215FM FORT COLLINS, CO, CH. 215D

REFERENCE
40 32 47.0 N.
105 11 53.0 W.

CH# 215D - 90.9 MHz, Pwr= 0.15 kW DA, HAAT= 371.9 M, COR= 2190 M
Average Protected F(50-50)= 22.08 km
Standard Directional

DISPLAY DATES
DATA 12-23-16
SEARCH 12-26-16

CH CITY	CALL	TYPE ANT STATE	AZI --<	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap	*OUT* in km)
215CO KLVV Chugwater	LIC _CX WY	345.9 165.8	87.57 BLED20040621ABR	41 18 39.0 105 27 12.0	100.000 361	158.3 2765	61.7 Educational Media Foundati	-78.1*	3.7	
218C1 KUNC Greel ey	LIC _CX CO	305.9 125.8	13.50 BLED20070727ACF	40 37 03.0 105 19 39.0	36.000 384	9.6 2565	80.5 Communi ty Radio For Northe	-4.3	-67.7*	
215D K215FM Fort Coll ins	LIC DC_ CO	166.6 346.6	6.05 BLFT20160721AAA	40 29 36.0 105 10 53.0	0.006	41.4 2079	5.2 Mountain Communi ty Transla	-38.0*	-49.1*	
216CO KLDV Morri son	LIC _CX CO	180.5 0.5	105.08 BMLED20160830ABQ	39 36 00.0 105 12 35.0	100.000 356	134.6 2448	86.2 Educational Media Foundati	-34.8*	10.6	
213C3 KCSU-FM Fort Coll ins	LIC _CN CO	30.9 210.9	6.94 BLED19850124LR	40 36 00.0 105 09 21.0	10.000 -108	1.8 1613	18.1 Board Of Governors Of The	-1.4	-11.2*	
214A KENC Estes Park	LIC DEX CO	232.9 52.7	34.22 BMLED20130109AGF	40 21 38.0 105 31 12.0	0.200 13	16.8 2730	10.8 Communi ty Radio For Northe	5.5	4.8	
214A KGUD Longmont	LIC _CN CO	160.4 340.5	36.11 BLED19821018AU	40 14 24.0 105 03 19.0	0.100 82	13.2 1613	8.9 Longmont Communi ty Radio	15.0	21.3	
06NT KXDP-LP Denver	LI D_N CO	186.5 6.5	70.75 BLTVL20100716ABT	39 54 48.0 105 17 33.0	3.000 879	0.4 2536	53.9 54.3R	54.3R	16.4M	
06 T KXDP-LP Denver	CP D_N CO	186.5 6.5	70.75 BDFCDVL20141003ACE	39 54 48.0 105 17 33.0	3.000 879	0.4 2536	53.9 54.3R	54.3R	16.4M	
214A KGUD Longmont	CP DCX CO	160.4 340.5	36.11 BPED20141216AAD	40 14 24.0 105 03 19.0	1.000 82	11.1 1613	7.2 Longmont Communi ty Radio	18.1	23.5	
212C2 KWYC Cheyenne	LIC _CX WY	40.0 220.5	97.67 BLED20100511ABH	41 13 01.0 104 26 53.0	20.500 130	4.0 1848	37.9 Calvary Chapel Of Twin Fal	82.4	58.9	
214D K268CK Gol den	CP DC_ CO	181.0 1.0	84.58 BPFT20151221CEC	39 47 05.0 105 12 56.0	0.014	11.9 2004	8.8 Mary Medi cus	61.8	70.5	
213D K213EL Larami e	LIC _C_ WY	346.0 165.8	84.94 BMLFT20080701ABU	41 17 17.0 105 26 42.0	0.013 301	0.3 2713	7.4 Edgewater Broadcasting, In	77.3	77.0	
217D K217EY Larami e	LIC _C_ WY	345.9 165.8	84.61 BLFT20040830ACG	41 17 06.0 105 26 41.0	0.013 275	0.3 2688	6.8 Bi ble Broadcasting Network	77.0	77.1	
215D K215BZ Dill on	LIC _VN CO	215.8 35.2	127.34 BLFT19970121TD	39 36 50.0 106 04 02.0	0.082 -285	17.5 2864	5.4 Educational Media Foundati	96.9	78.8	
213D K213EG Li ttl eton	LIC DE_ CO	182.0 2.0	90.76 BLFT20060602AAN	39 43 46.0 105 14 08.0	0.003 213	0.0 2241	1.6 Educational Communi cations	79.7	88.7	
214A KMPB Breckenri dge	LIC _CX CO	211.5 30.9	136.54 BLED20130930BUD	39 29 44.0 106 01 44.0	0.600 -76	36.4 3246	24.0 Communi ty Radio For Northe	87.2	89.4	
216C KTNE-FM Alli ance	LIC _CY NE	50.6 232.0	230.13 BLED19900515KB	41 50 24.0 103 03 18.0	100.000 404	124.1 1669	83.2 Nebraska Educational Tel ec	93.5	129.4	
214D K214AW Wal den	LIC DHN CO	260.9 80.0	129.06 BLFT19890321TE	40 21 16.0 106 41 55.0	0.077 530	22.4 3236	14.3 Communi ty Radio For Northe	95.8	102.7	
268C KJHM Watki ns	APP NHX CO	123.3 304.1	125.25 BPH20160614AAD	39 55 22.0 103 58 18.0	97.000 625	2.4 2109	24.2 Max Radio Of Denver LI c	28.5R	96.8M	
268C KJHM Strasburg	LIC NCX CO	123.3 304.1	125.25 BMLH20141014ACF	39 55 22.0 103 58 18.0	97.000 625	2.4 2109	24.2 Max Radio Of Denver LI c	28.5R	96.8M	
215A KVNC Mi ntur n	LIC _CX CO	226.2 45.4	148.53 BLED20130927ATU	39 36 58.0 106 26 58.0	0.100 -211	18.6 2726	5.6 Communi ty Radio For Northe	117.2	100.9	
268C KJHM Watki ns	RSV-A ____ CO	123.5 304.3	136.85	39 51 39.0 103 51 44.0	100.000 600	2.4 2088	24.2 Max Radi o Of Denver LI c	28.5R	108.4M	
213CO KTLF Col orado Spri ngs	LIC _VX CO	171.7 351.9	202.05 BLED20040225AAB	38 44 43.0 104 51 39.0	20.000 673	8.5 2923	85.8 Educati onal Communi cations	183.7	115.9	
214D K214AK Steamboat Spri ngs	LIC DHN CO	260.9 80.0	129.06 BLFT19870803TD	40 21 16.0 106 41 55.0	0.077 528	1.5 3236	0.8 Communi ty Radio For Northe	116.7	117.4	

CH CI TY	CALL	TYPE STATE	ANT STATE	AZI <--	DI ST FI LE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	Page # 2 *IN* (Overlap in km)		*OUT*
213A Brush	KBEI	LIC _CX CO		102. 4 283. 4	135. 43 BLED20120221ABO	40 16 30. 0 103 38 33. 0	1. 000 56	1. 6 1370	13. 6 Educational	119. 9 Communi cations		120. 2
215A Leadville	KTOL	LIC _C_ CO		213. 2 32. 4	173. 46 BLED20080606AAR	39 14 05. 0 106 17 59. 0	0. 450 -207	27. 7 3083	8. 3 Educational	132. 8 Communi cations		122. 1
214A Sterling	KDRE	LIC _VX CO		86. 9 268. 3	183. 39 BLED20051006AAI	40 36 56. 0 103 02 02. 0	1. 600 154	42. 9 1447	28. 5 Educational	126. 2 Media Foundati		132. 4
217C3 Brush	KLZV	LIC _CX CO		104. 6 285. 9	168. 46 BLED20070927AIN	40 08 56. 0 103 17 04. 0	6. 000 129	3. 4 1526	35. 8 Educational	151. 3 Media Foundati		132. 3
217C3 Gypsum	KLRY	LIC _CX CO		239. 0 58. 0	164. 44 BLED20051109AAM	39 46 30. 0 106 50 45. 0	0. 110 859	0. 7 3361	24. 8 Educational	151. 3 Media Foundati		135. 0
215A Rifle	KRJX	LIC _CX CO		243. 4 61. 6	266. 34 BLED20120507AAJ	39 26 33. 0 107 58 01. 0	3. 000 3	119. 0 2242	48. 0 Educational	135. 3 Communi cations		195. 0
269C1 Eagle	KSKE-FM	LIC _ZC_ CO		237. 1 56. 1	163. 32 BLH20050915ADE	39 44 18. 0 106 47 58. 0	12. 000 667	2. 4 3171	24. 2 Alwaysmountaintime,	21. 5R Lic		141. 8M
215C3 Rye	KRWA	LIC _CX CO		176. 5 356. 7	289. 37 BLED20110307ABR	37 56 40. 0 104 59 56. 0	10. 000 35	125. 9 2577	53. 4 Way Media, Inc.	153. 0		218. 4
214C3 Lingle	KUWV	LIC _CX WY		23. 1 203. 8	216. 48 BLED20110316AAQ	42 20 02. 8 104 09 56. 2	14. 000 96	52. 6 1510	34. 4 Uni versi ty Of Wyomi ng	154. 5		172. 9
269A Wheatland	KZEW	LIC _CN WY		7. 1 187. 3	167. 82 BLH19850723KC	42 02 44. 0 104 56 47. 0	3. 000 38	2. 4 1503	24. 2 Smi th Broadcasting, Incorp	9. 5R		158. 3M
218C1 Colorado Springs	KRCC	LIC DCN CO		171. 7 351. 9	202. 04 BLED19940124KZ	38 44 43. 0 104 51 42. 0	2. 100 687	0. 9 2920	38. 7 The Colorado Col lege	191. 2		159. 0
213C2 Carbondale	KVOV	LIC DCX CO		236. 6 55. 2	223. 77 BLED20040913AAA	39 25 08. 0 107 22 10. 0	0. 450 775	1. 4 3227	48. 8 Public Broadcasting Of Col	209. 9		174. 1
218A Aspen	KAJX	LIC DEN CO		222. 9 41. 9	203. 30 BLED19910514KC	39 11 48. 0 106 48 14. 0	0. 380 -301	0. 4 2670	3. 9 Roaring Fork Public Radi o	190. 1		198. 0
212C Casper	KCSP-FM	LIC _CX WY		339. 7 158. 9	260. 54 BLED20140923ABP	42 44 24. 0 106 18 23. 0	100. 000 593	9. 0 2554	66. 9 Western Inspi rational Broa	243. 9		192. 8
217C2 Salida	KTPF	LIC _C_ CO		196. 9 16. 4	243. 35 BLED20070817ACM	38 26 48. 0 106 00 36. 0	0. 390 900	1. 4 3567	49. 8 Educational	229. 6 Communi cations		193. 1
269A Rock Creek Park	KXCL	LIC _CX CO		168. 5 348. 8	206. 89 BMLD20130813AAE	38 43 11. 0 104 43 16. 0	2. 100 -9	2. 4 1803	24. 2 Calvary Chapel	9. 5R Aurora		197. 4M
215A Paonia	KVNF	LIC _CX CO		229. 4 47. 8	281. 19 BLED20050826AAJ	38 52 28. 0 107 39 40. 0	2. 600 -22	50. 4 2120	12. 8 North Fork Val ley Public R	218. 1		207. 5
212A Crested Butte	KBUT	LIC _CX CO		220. 3 39. 1	237. 65 BLED20140917ACR	38 54 07. 0 106 58 21. 0	1. 000 -208	1. 6 2969	10. 2 Crested Butte Mountain Edu	223. 2		227. 0
217C3 Casper	KUWC	LIC _C_ WY		338. 8 158. 0	262. 20 BLED20000707ACY	42 44 26. 0 106 21 34. 0	0. 530 544	1. 6 2482	22. 6 Uni versi ty Of Wyomi ng	252. 9		232. 6
216A Gunnison	KWSB-FM	LIC _CN CO		213. 6 32. 5	268. 48 BLED19850430LR	38 31 22. 0 106 54 28. 0	0. 135 91	9. 5 2627	6. 6 Western State Col lege Of C	246. 1		235. 3
212A Wray	KGCD	LIC _VX CO		101. 3 283. 2	258. 58 BLED20110408ACX	40 03 13. 0 102 13 32. 0	0. 430 77	1. 5 1211	12. 8 The Praise Network, Inc.	243. 2		245. 1
213C0 Rock Springs	KUWZ	LIC _CX WY		287. 8 105. 3	344. 35 BLED20060213ADF	41 25 39. 0 109 07 17. 0	35. 000 512	8. 9 2680	72. 8 Uni versi ty Of Wyomi ng	323. 7		270. 5
217C2 Grand Junction	KMSA	LIC _CX CO		242. 6 60. 4	345. 60 BLED20130305ABT	39 03 56. 0 108 44 52. 0	3. 100 407	3. 6 2204	61. 3 Colorado Mesa Uni versi ty	329. 8		283. 4
212C2 Grand Junction	KLFV	LIC _CX CO		242. 6 60. 4	345. 50 BMLD20151215ABZ	39 03 57. 0 108 44 48. 0	3. 000 399	3. 6 2196	60. 8 Educational	329. 7 Media Foundati		283. 8
215A Alamosa	KASF	LIC _C_ CO		190. 0 9. 5	346. 31 BLED20010419AAA	37 28 20. 0 105 52 39. 0	1. 100 27	36. 8 2316	10. 4 Adams State Col lege	297. 6		317. 4
213A Chadron	KJZC	LIC _C_ NE		35. 1 216. 6	312. 07 BLED20110824ABL	42 49 14. 0 102 59 48. 0	0. 865 13	1. 6 1084	9. 8 Board Trustees, Ne State C	299. 6		302. 2
214A Lamar	KCSE	LIC NCX CO		140. 5 322. 1	357. 67 BLED20140929AIN	38 02 10. 0 102 35 58. 0	4. 000 113	45. 1 1259	29. 6 Kanza Soci ety, Inc.	301. 2		319. 7
218C3 South Fork	KTML	LIC _VX CO		201. 4 20. 5	335. 00 BLED20090202ABJ	37 43 47. 0 106 35 18. 0	0. 280 492	1. 2 3330	28. 0 Educational	321. 2 Communi cations		306. 0

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	Page # 3 *IN* (Overlap in km)	*OUT*
269C1 Ogalala	R12441	ADD NE	---	78.7 261.2	330.77	41 03 50.0 101 20 16.0	100.000 299	2.4 1266	24.2 Jer Licenses, Lic	21.5R	309.3M
268C2 Fruita	KGJX	LIC CO	_C_ CO	242.6 60.4	345.39 BLH20120917AFH	39 04 00.0 108 44 45.0	3.150 418	2.4 2215	24.2 Redrock Radio Group L.L.C.	14.5R	330.9M
217A Rock Springs	KWMM	LIC WY	_CX WY	290.3 107.6	358.77 BLED20120323AFG	41 35 31.0 109 14 13.0	0.280 -54	1.2 1986	7.3 Western Wyoming Community	345.9	350.7

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. 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.

* No actual interference will be caused to either KUNC(FM) or KCSU-FM since the worse case 100 DBU interference contour will not cover any population.

FIGURE 2 - PREDICTED 100 DBU INTERFERENCE CONTOUR
K215FM FORT COLLINS, CO, CH. 215D

Coverage Study - NGDC 30 SEC
12-26-2016

K215FM CH215 D , 0.15 kW, 371.9m HAAT, 2190.0m COR AMSL
Interference Contour = 100 dBu. Population = 0

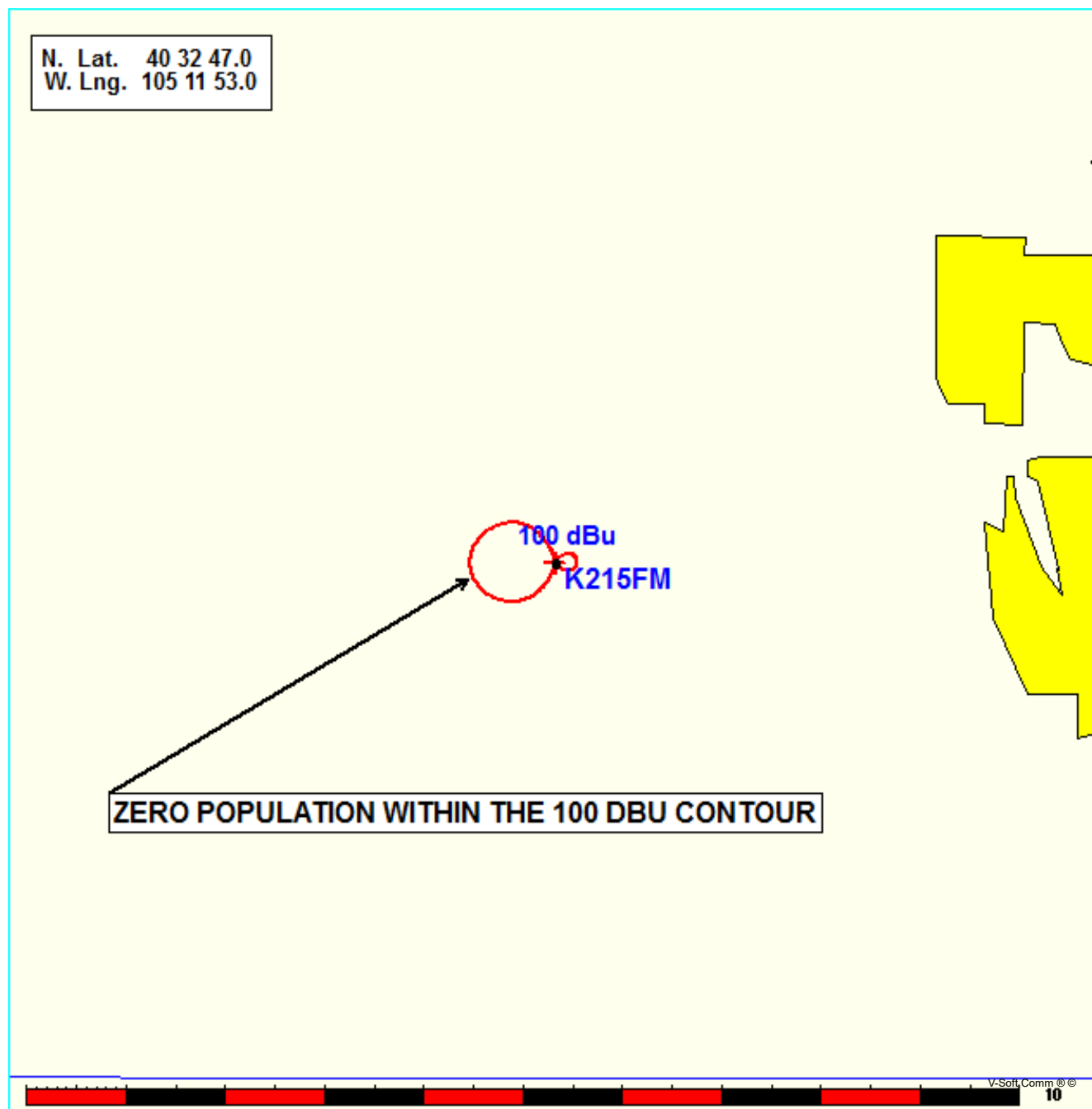


FIGURE 3 - DIRECTIONAL ANTENNA DATA

K215FM

12-26-2016

RMS(V)= .484

SCALA CA-2-CP ORIENTED AT 270 DEGREES

Graph is Relative Field

Azi	Field	dBk	kW
000	0.030	-38.697	0.000
010	0.032	-38.136	0.000
020	0.037	-36.875	0.000
030	0.046	-34.984	0.000
040	0.065	-31.981	0.001
050	0.142	-25.193	0.003
060	0.202	-22.132	0.006
070	0.234	-20.855	0.008
080	0.250	-20.280	0.009
090	0.260	-19.940	0.010
100	0.250	-20.280	0.009
110	0.234	-20.855	0.008
120	0.202	-22.132	0.006
130	0.142	-25.193	0.003
140	0.065	-31.981	0.001
150	0.046	-34.984	0.000
160	0.037	-36.875	0.000
170	0.032	-38.136	0.000
180	0.030	-38.697	0.000
190	0.045	-35.175	0.000
200	0.187	-22.802	0.005
210	0.388	-16.462	0.023
220	0.570	-13.122	0.049
230	0.715	-11.153	0.077
240	0.829	-9.868	0.103
250	0.920	-8.963	0.127
260	0.979	-8.423	0.144
270	1.000	-8.239	0.150
280	0.979	-8.423	0.144
290	0.920	-8.963	0.127
300	0.829	-9.868	0.103
310	0.715	-11.153	0.077
320	0.570	-13.122	0.049
330	0.388	-16.462	0.023
340	0.187	-22.802	0.005
350	0.045	-35.175	0.000

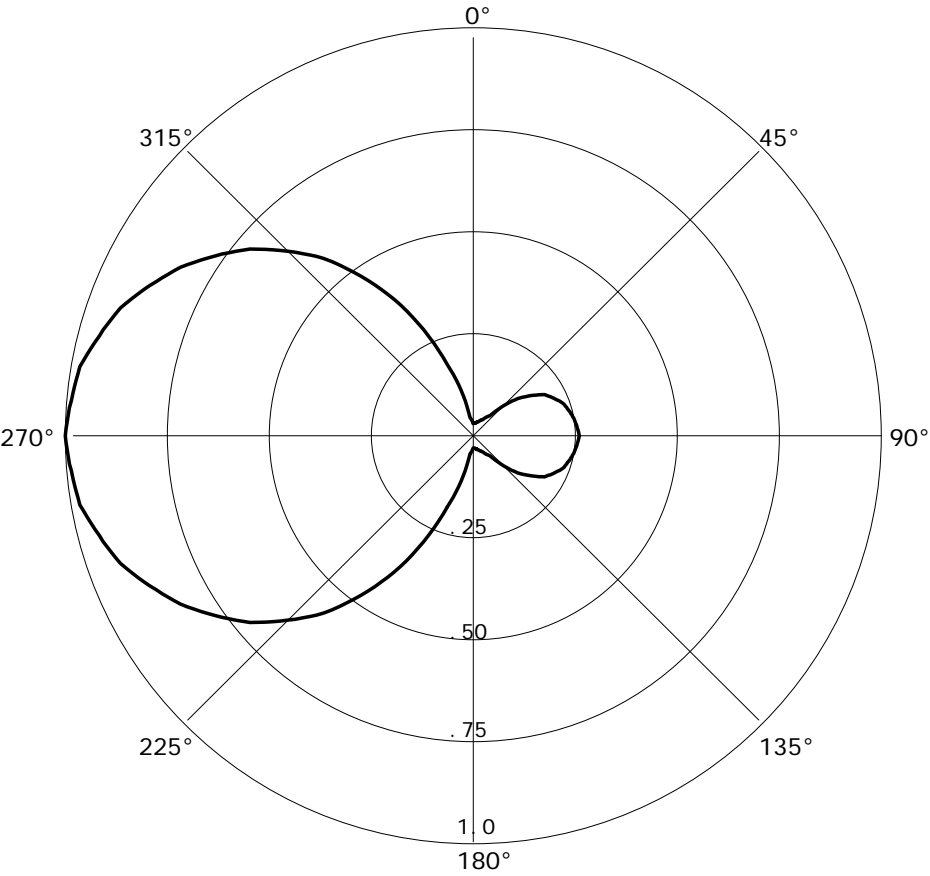


FIGURE 4 - PRESENT AND PROPOSED 60 DBU CONTOUR
K215FM FORT COLLINS, CO, CH. 215D

Coverage Study - NGDC 30 SEC
12-26-2016

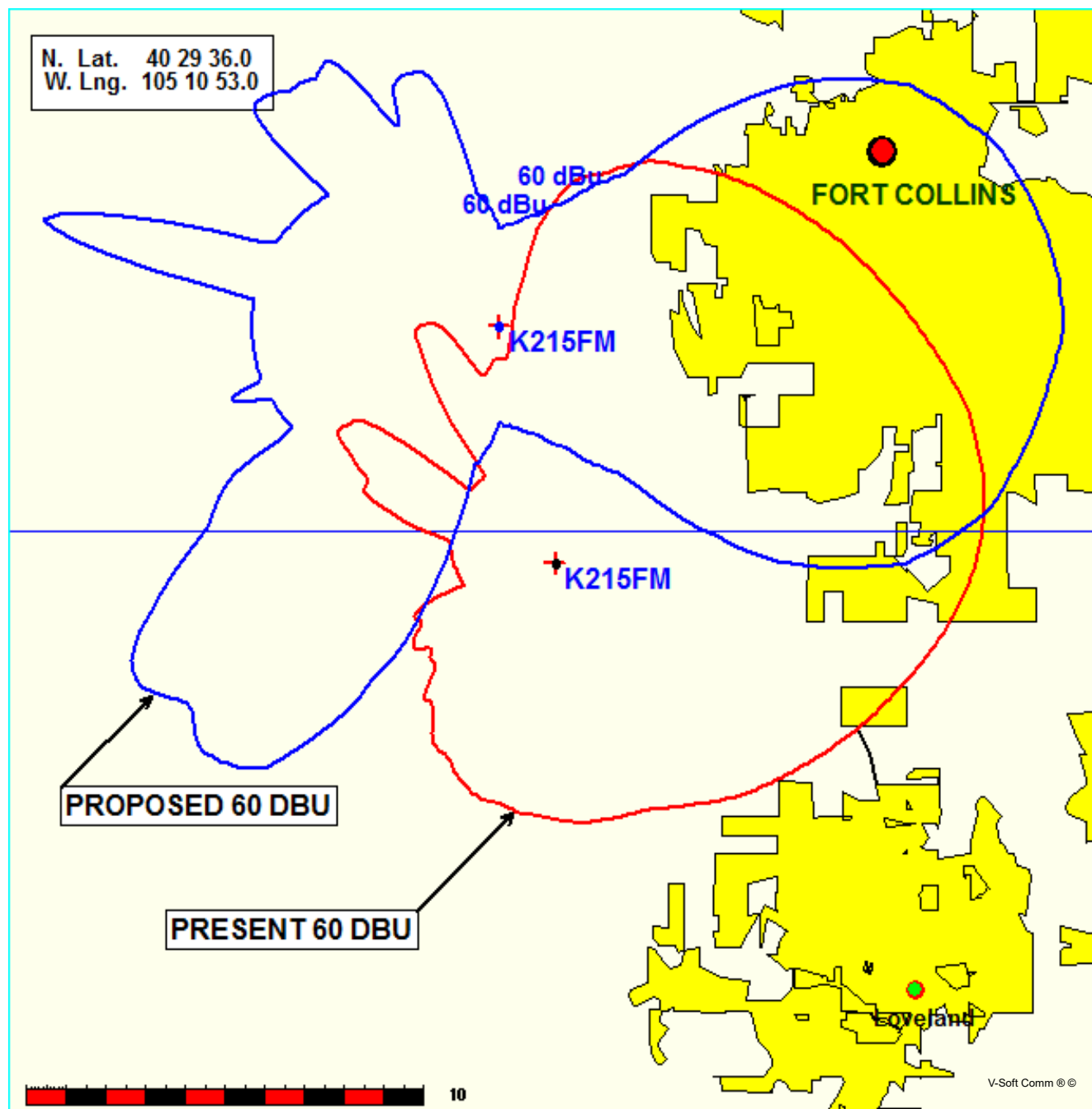


FIGURE 4
 COMPLIANCE WITH 74.1235(b)(2)
 EFFECTIVE RADIATED POWER CALCULATIONS
 K215FM FORT COLLINS, COLORADO, CH. 215D
 DECEMBER 2016

The following table will shows compliance with the maximum Effective Radiated Power limitations according to 74.1235(b)(2) for an FM translator station located West of the Mississippi River.

K215FM proposes to use a directional antenna system, which will limit the Maximum ERP on some of the 12 pertinent average terrain radials. The maximum ERP for this antenna will be 0.15 KW (150 watts) at an azimuth of 270 degrees.

<u>Azimuth</u>	<u>COR HAAT</u>	<u>Maximum Power Allowed</u>	<u>Proposed ERP</u>
0	476.0 meters	13.0 watts	Less than 1 watt
30	594.9 meters	10.0 watts	Less than 1 watt
60	632.6 meters	10.0 watts	6.0 watts
90	642.8 meters	10.0 watts	10.0 watts
120	619.4 meters	10.0 watts	6.0 watts
150	516.4 meters	11.0 watts	Less than 1 watt
180	535.7 meters	13.0 watts	Less than 1 watt
210	316.9 meters	34.0 watts	23.0 watts
240	52.9 meters	250 watts	103.0 watts
270	8.2 meters	250 watts	150.0 watts
300	(-12.8) meters	250 watts	103.0 watts
330	87.3 meters	250 watts	23.0 watts

The proposed operation of K215FM operating with a maximum ERP of 0.15 Kilowatts was found to be in compliance with 74.1235(b)(2).