

## **Broadcast Engineering Services of Bonny Doon, Inc.**

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### **Engineering Statement Minor Change To Translator K212AN Espanola, NM BLFT- 20160901AAS**

The licensee proposes to modify this translator to avoid preclusion by the newly authorized KANM facility in Grants, New Mexico (BMLED-20161208ABM). The activation of KANM is now causing destructive interference to K212AN within the primary coverage area, and precluding coverage to the listening area.

This minor change seeks to modify the output frequency to Ch 216D and change the azimuth of the existing directional antenna to 220 degrees true. This translator would continue to operate as a fill-in translator for KANW, Albuquerque, New Mexico (Facility 4273), which is co-owned and operated.

The attached allocation studies for Ch. 216 reveals no overlaps to any existing or proposed stations, with the exception of 2<sup>nd</sup> adjacent KQLV Albuquerque (BLED- 20090624AEO) and 2<sup>nd</sup> adjacent KFLQ Albuquerque (BMLED-20121126AQQ). To the extent required, the applicant requests a waiver of the rules, as allowed by 74.1204(d), because there is no population inside the proposed 100 dbu 50/10 overlap contour.

According to 47 C.F.R. 1.1307(b)(1) Table 1, any "Part 74 – Subpart L" facility with an ERP greater than 100 watts, is subject to routine environmental evaluation. As the facility proposed in this application will operate with an ERP of 200 watts, an analysis of the predicted radiofrequency exposure has been conducted.

The existing and proposed antenna is located at the northern end of the Tesuque Peak Electronic site. There are no other broadcast stations at the site, only low power two way and microwave stations. This site is not restricted from public access by locked gates, but the site is posted with RF warning signs. Site access to the buildings and towers is behind locked gates and limited to service personnel who are trained in RF procedures specific for this site.

The existing and proposed transmitting antenna is a vertically polarized Scala type CL-FMV. This antenna employs a log-periodic design that reduces radiation above, below and behind the antenna to a very low level. The antenna is mounted with its center of radiation at 17 meters above ground level, and is

situated on a mountaintop site. Because this is a single-user facility, the actual RFR level is calculated as follows:

K212AN (proposed): .200kW @ 17 meters AG = 8.1 W/m<sup>2</sup> @ 8 Meters

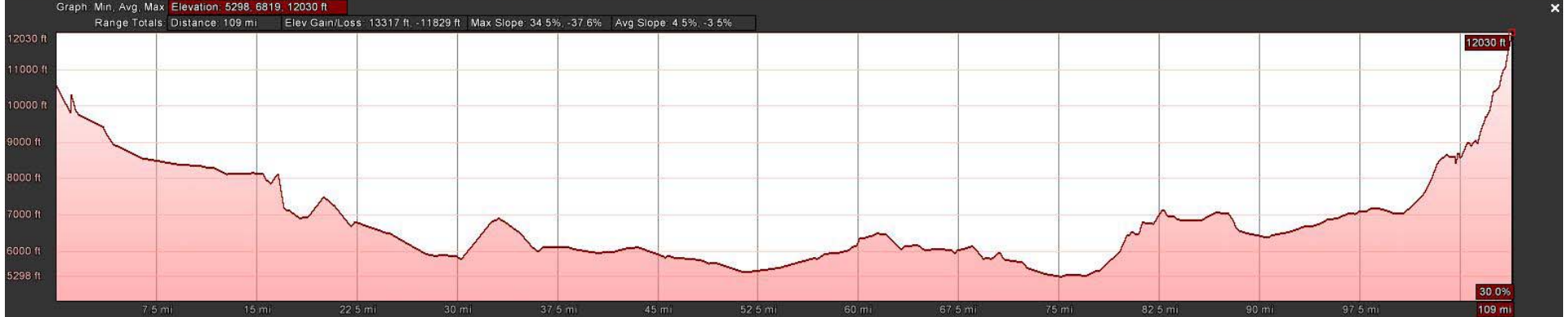
Because the calculated RFR level is well below the Public and occupied standards of 200/1000 W/m<sup>2</sup>, the proposal appears to be compliant with FCC and ANSI limits.

The applicant will, in coordination with other users of the site, 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.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'D. Mussell Jr.', with a stylized, cursive flourish extending to the right.

Donald E. Mussell Jr. NCE-CBT  
Consulting Engineer  
April 8, 2018

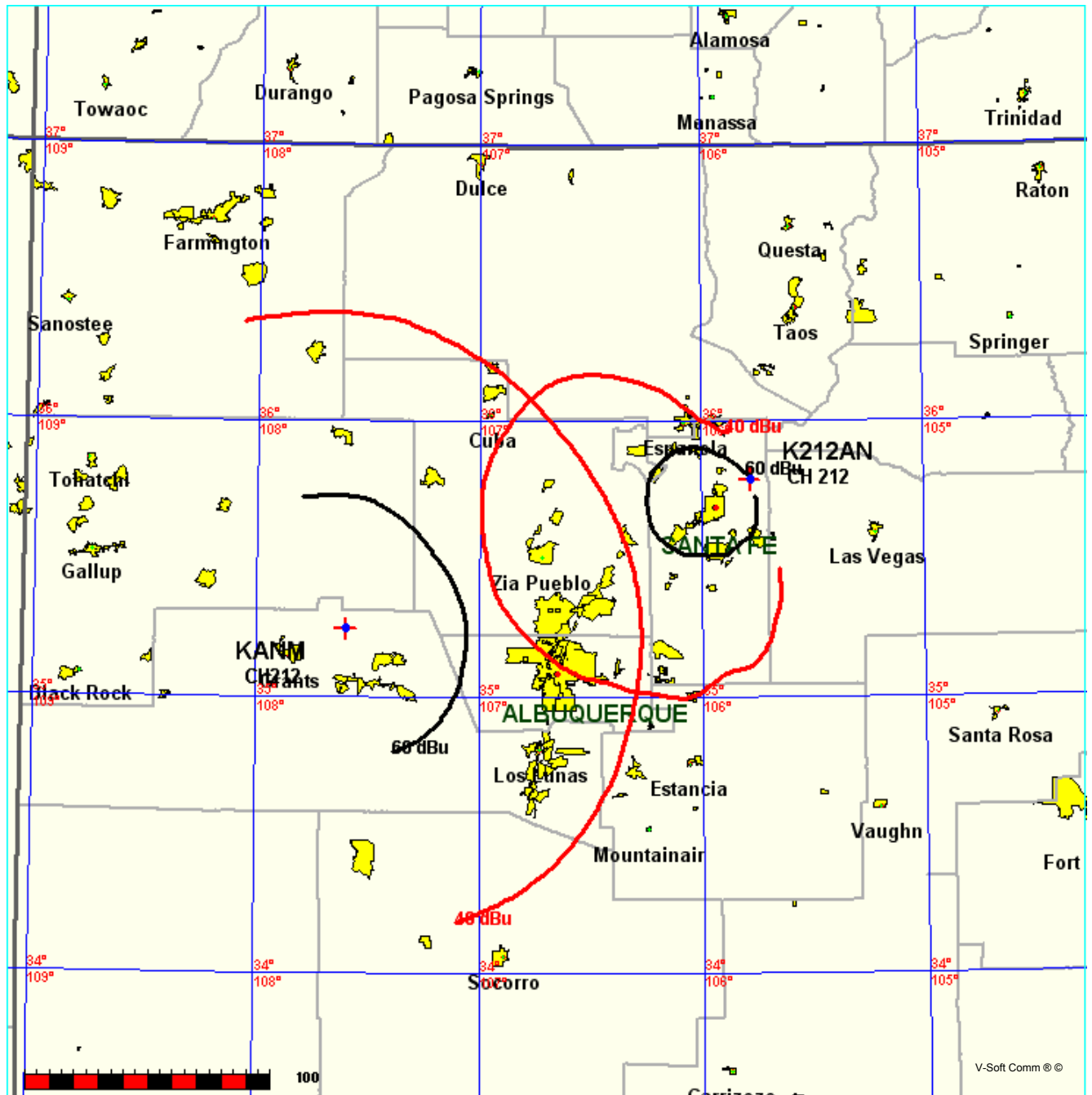


K212AN - KANM  
Board Of Education Of The City Of Albuquerque, Nm

FMCommander Single Allocation Study - 04-03-2018 - FCC NGDC 30 Sec  
K212AN's Overlaps (In= 12.67 km, Out= 14.87 km)

K212AN CH 212 D DA  
Lat= 35 47 08.0, Lng= 105 46 55.0  
0.2 kW 0 m HAAT, 3688 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

KANM CH 212 C2 BMLED20161208ABM  
Lat= 35 15 08.0, Lng= 107 35 45.0  
1.0 kW 827 m HAAT, 3360 m COR  
Prot.= 60 dBu, Intef.= 40 dBu





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Don Mussell, Consulting Engineer

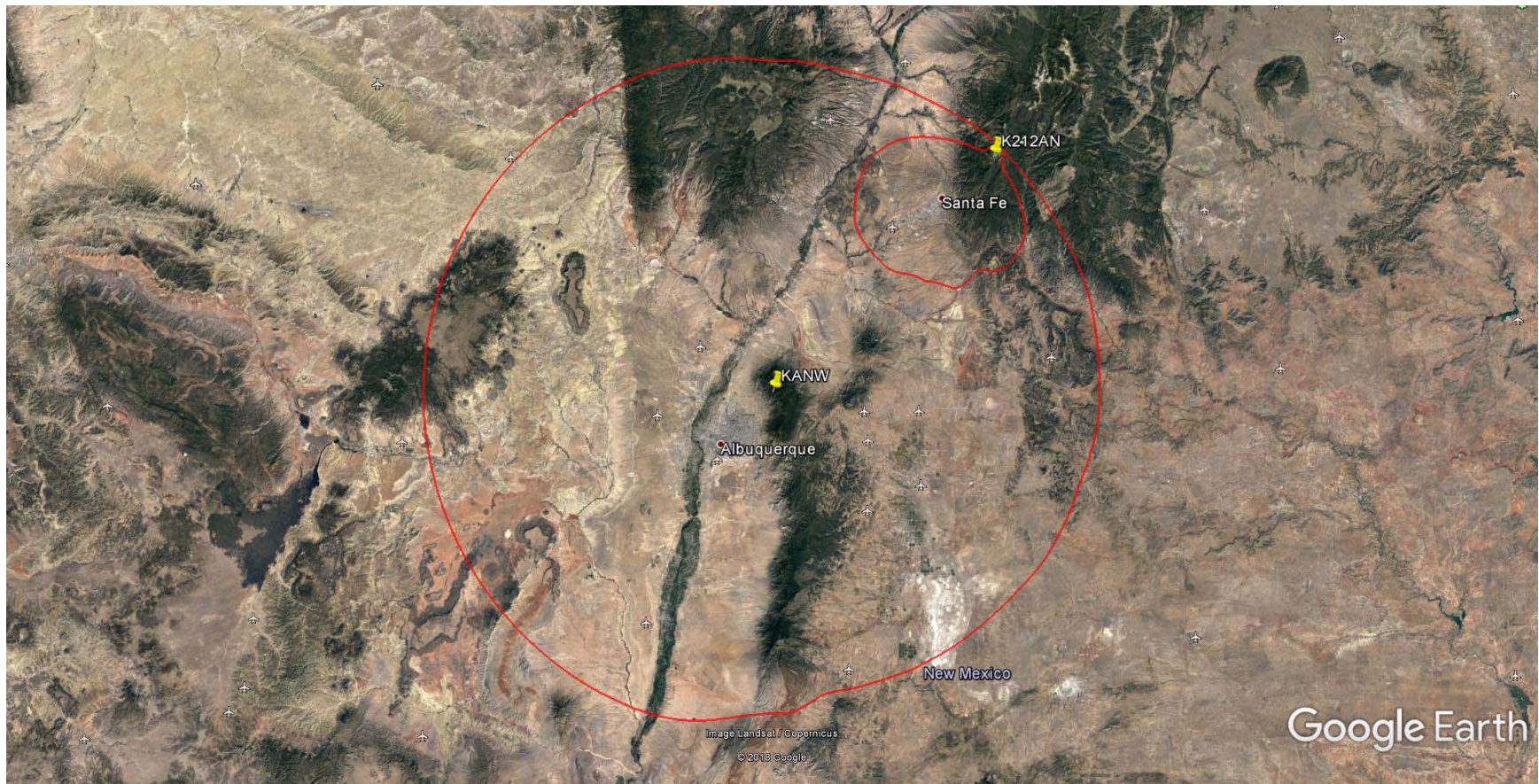
K212AN Minor Change  
Board Of Education Of The City Of Albuquerque, Nm  
CH# 216D - 91.1 MHz, Pwr= 0.2 kw DA, HAAT= 0.0 M, COR= 3688 M  
Average Protected F(50-50)= 6.71 km  
Standard Directional

DISPLAY DATES  
DATA 04-03-18  
SEARCH 04-07-18

REFERENCE  
35 47 08.0 N.  
105 46 55.0 W.

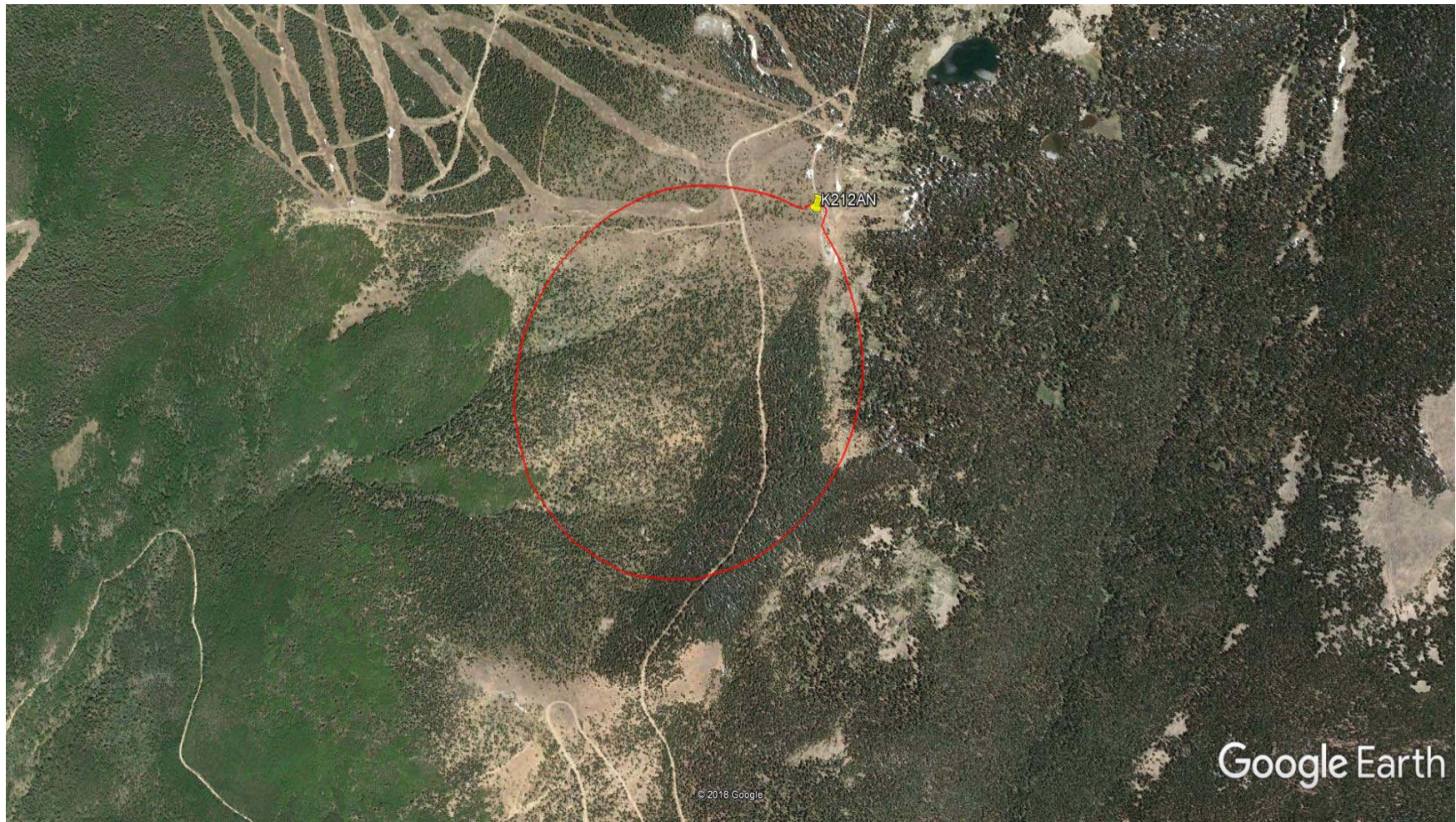
CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
214C Santa Fe	KQLV	LIC _CY NM		223.8 43.4	87.74 BLED20090624AEO	35 12 50.0 106 27 01.0	20.000 1261	9.0 3281	91.4 Educational Media Foundati	37.1	-4.6*
218C Albuquerque	KFLQ	LIC _CX NM		223.8 43.4	87.74 BMLED20121126AQQ	35 12 51.0 106 27 02.0	20.000 1232	9.0 3252	91.0 Family Life Broadcasting S	37.1	-4.2*
216A Las Vegas	KEDP	LIC _HX NM		112.6 292.9	55.05 BLED20070118AAF	35 35 39.0 105 13 15.0	1.320 -61	39.2 1983	10.9 Board Of Regents Of New Me	3.0	23.1
216L1 Albuquerque	KQUQ-LP	APP _ NM		226.0 45.4	119.15 BMPL20141204ABJ	35 02 13.6 106 43 21.8	0.100 -24	1550	Quote...unquote, Inc.	57.8	4.6
216D Cuba	K216CU	LIC _CN NM		285.2 104.5	99.17 BLFT19960613TA	36 00 49.0 106 50 39.0	0.008 366	36.6 2954	10.0 Regents Of The University	30.6	6.4
Translator for KUNM, Albuquerque, NM											
270C1 Taos	KTAO	LIC _CN NM		12.6 192.7	52.44 BLH19990308KD	36 14 48.0 105 39 15.0	1.200 852	12.8 3303	58.8 Taos Communication Corpora	21.5R	30.9M
Mod of one-step app from Channel 268C1--From Channel 269A per D90-120.											
06 -- Chamita	K06PR-D	CP D_N NM		318.7 138.5	46.28 BNPDVL-20090923ABL	36 05 52.1 106 07 19.6	0.300 -999	0.3 2040	14.7 15.0R	15.0R	31.3M
215D San Augustin	K215DT	LIC DV_ NM		128.0 308.4	68.50 BLFT20010403ABM	35 24 17.0 105 11 13.0	0.104 207	14.4 2085	10.6 Eastern New Mexico Univers	36.4	51.3
06 -- Mora	DK06HX	APP D_N NM		63.4 243.6	43.20 BDFCDTV-20090824AD	35 57 31.0 105 21 11.9	0.001 -999	0.4 2590	1.0 1.4R	1.4R	41.8M
06N-- Penasco	K06FT	LI DHN NM		5.2 185.3	48.09 BLTT-3074	36 13 01.9 105 43 58.9	0.001 -999	0.4 2445	1.5 1.9R	1.9R	46.2M
216C3 Belen	KQGC	LIC _HX NM		216.3 35.5	190.66 BMLED20090630AFW	34 23 44.0 107 00 42.0	7.000 49	98.0 1724	36.9 Carlos Arana Ministries, I	51.6	49.5
215A Arroyo Seco	KRRT	LIC DHX NM		17.4 197.6	71.24 BLED20120203ABW	36 23 52.0 105 32 36.0	5.100 -186	10.8 2283	7.5 Regents Of The University	57.1	49.7

Terrain database is FCC 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.



KANW and Proposed fill-in contour from K212AN (migrating to Ch 216D)





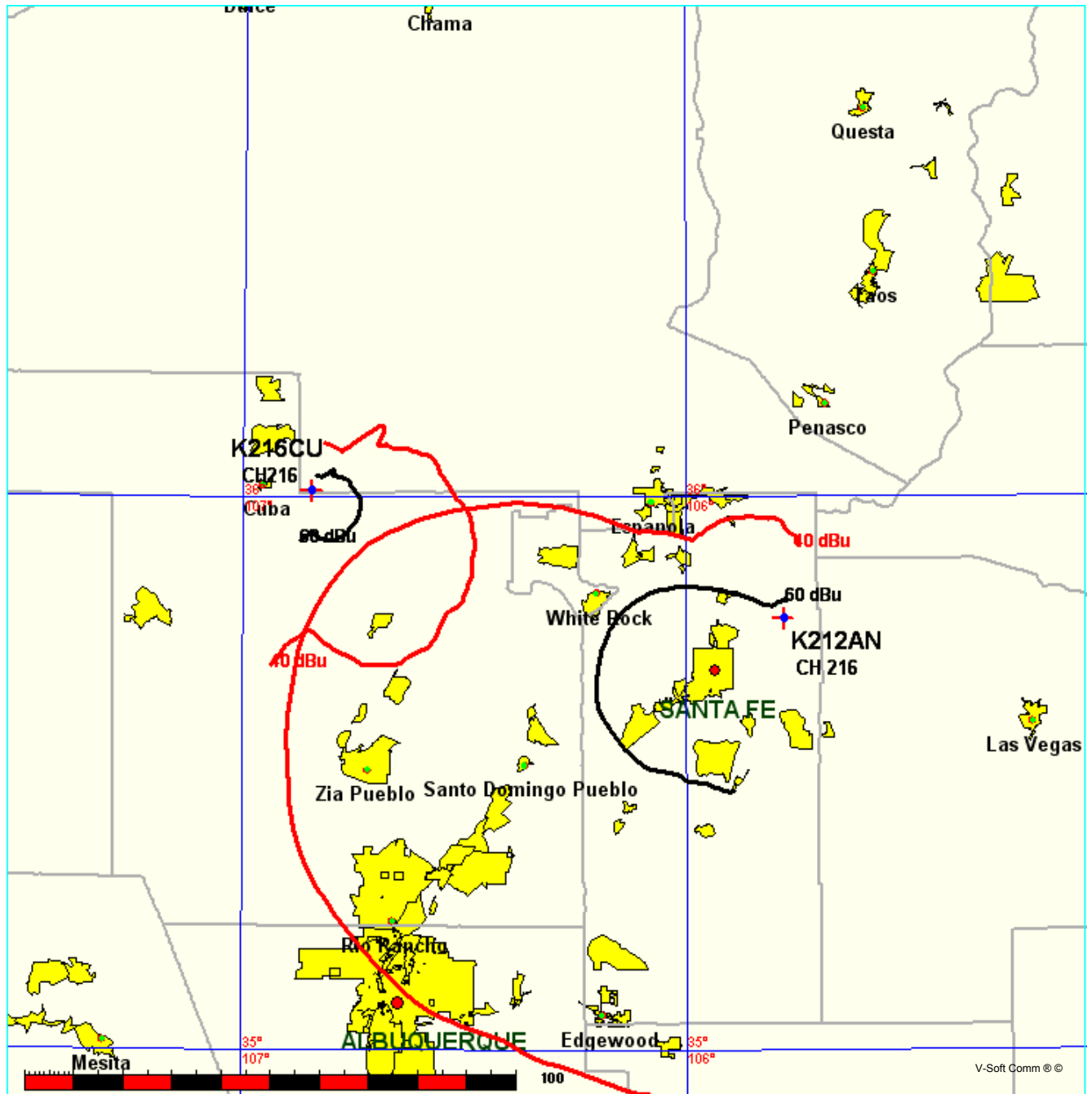
Proposed 100 dbu 50/10 Overlap Contour showing No Population

K212AN Minor Change  
Board Of Education Of The City Of Albuquerque, Nm

FMCommander Single Allocation Study - 04-07-2018 - FCC NGDC 30 Sec  
K212AN's Overlaps (In= 30.55 km, Out= 6.38 km)

K212AN CH 216 D DA  
Lat= 35 47 08.0, Lng= 105 46 55.0  
0.2 kW 0 m HAAT, 3688 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

K216CU CH 216 D BLFT19960613TA  
Lat= 36 00 49.0, Lng= 106 50 39.0  
0.008 kW 366 m HAAT, 2954 m COR  
Prot.= 60 dBu, Intef.= 40 dBu





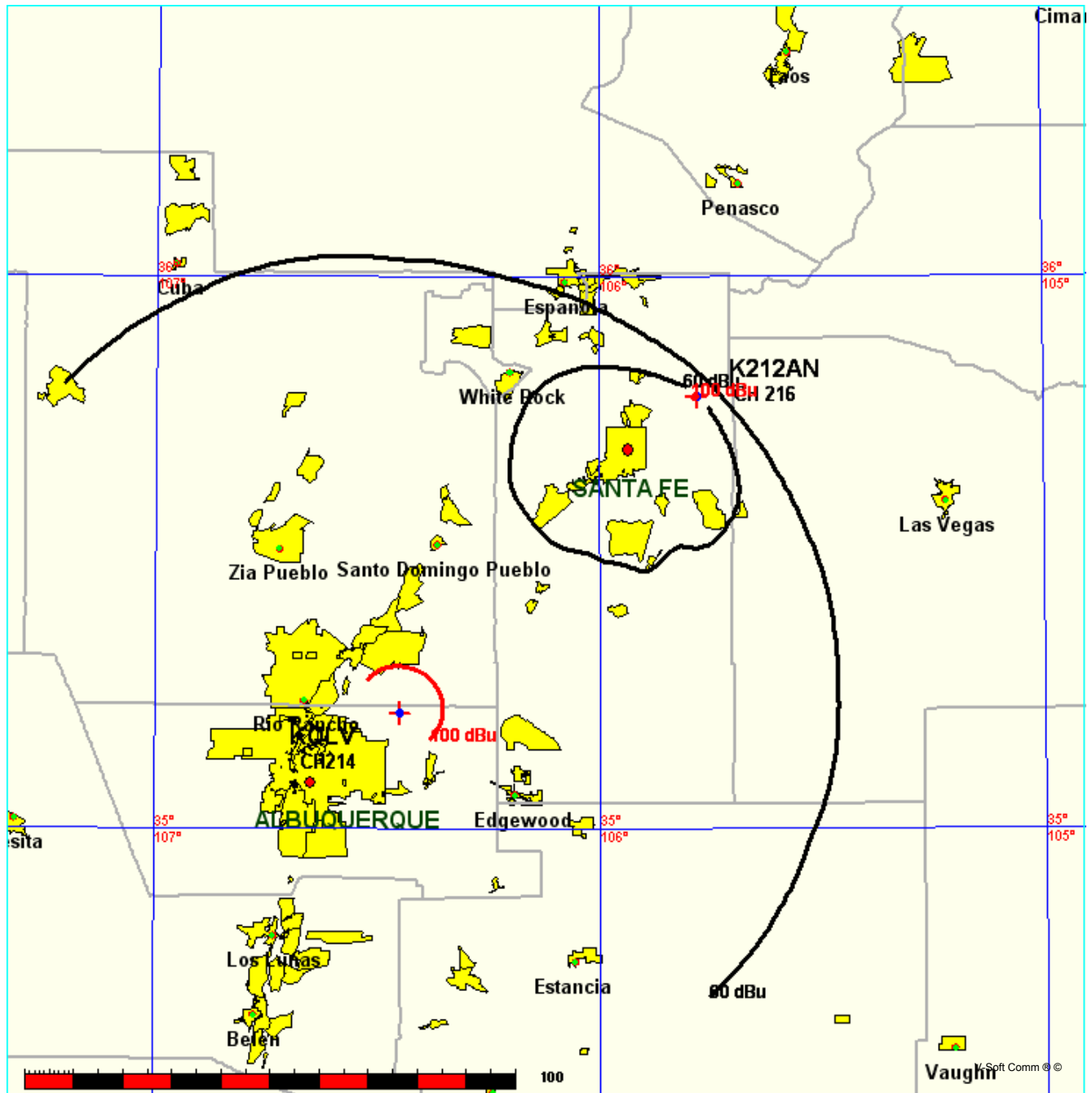


K212AN Minor Change  
Board Of Education Of The City Of Albuquerque, Nm

FMCommander Single Allocation Study - 04-07-2018 - FCC NGDC 30 Sec  
K212AN's Overlaps (In= 37.09 km, Out= -4.63 km)

K212AN CH 216 D DA  
Lat= 35 47 08.0, Lng= 105 46 55.0  
0.2 kW 0 m HAAT, 3688 m COR  
Prot.= 60 dBu, Intef.= 100 dBu

KQLV CH 214 C BLED20090624AEO  
Lat= 35 12 50.0, Lng= 106 27 01.0  
20.0 kW 1261 m HAAT, 3281 m COR  
Prot.= 60 dBu, Intef.= 100 dBu



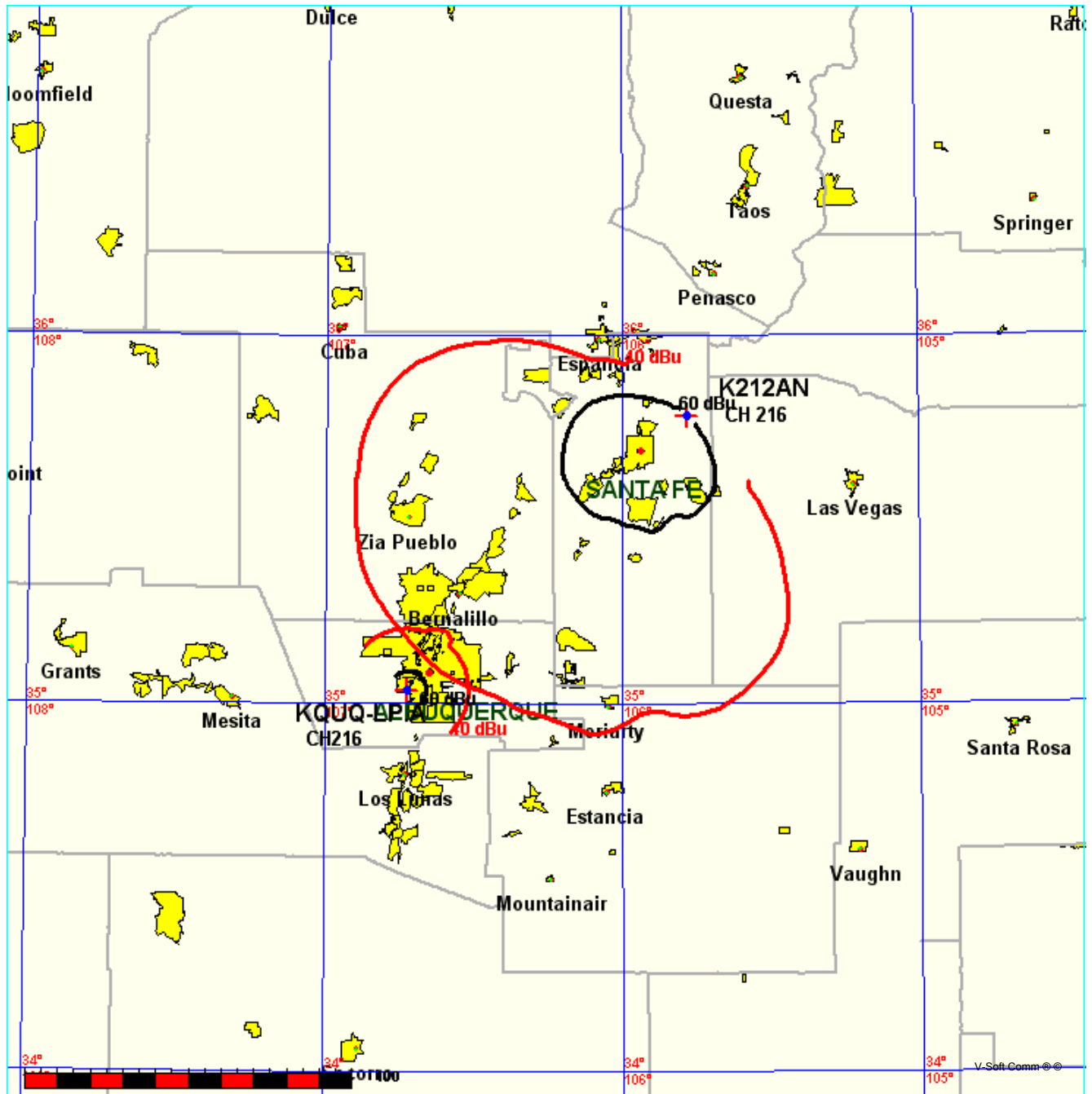


K212AN Minor Change  
Board Of Education Of The City Of Albuquerque, Nm

FMCommander Single Allocation Study - 04-07-2018 - FCC NGDC 30 Sec  
K212AN's Overlaps (In= 57.79 km, Out= 4.55 km)

K212AN CH 216 D DA  
Lat= 35 47 08.0, Lng= 105 46 55.0  
0.2 kW 0 m HAAT, 3688 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

KQUQ-LP CH 216 L1 BMPL20141204ABJ  
Lat= 35 02 13.6, Lng= 106 43 21.8  
0.1 kW -24.22914 m HAAT, 1550 m COR  
Prot.= 60 dBu, Intef.= 40 dBu



State of Hawaii )  
Kilauea )  
County of Kauai )

That he declares, under penalty of perjury, that the foregoing engineering exhibits were prepared by him or under his direction and supervision; and that the statements contained therein are true and correct to the best of his belief and knowledge.

Donald E. Mussell Jr. NCE-CBT  
Consulting Engineer  
April 8, 2018