

Doug Vernier Telecommunications Consultants

K255AH - Overlap Exhibit										
Board Of Governors Of Missouri State University										
REFERENCE	CH#	255D	-	98.9 MHz,	Pwr= 0.14 kW,	HAAT= 118.0 M,	COR= 437 M	DISPLAY DATES		
36 58 54.0 N.								DATA	09-03-15	
94 28 36.0 W.								SEARCH	09-03-15	
Average Protected F(50-50)= 12.09 km										
Omni-directional										
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kW)	INT(km)	PRO(km)	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)
255D	K255AH	LIC _CN		0.0	0.00	36 58 54.0	0.140	42.7	12.6	-55.2*
Joplin		MO		0.0	BLFT19980225TJ	94 28 36.0	118	437	Board Of Governors Of Miss	
257C3	KGVE	LIC _CX		227.9	49.22	36 41 03.0	14.500	3.9	38.4	9.9
Grove		OK		47.7	BLH20110523AFC	94 53 11.0	131	375	Caleb Corporation	
256A	KSEK-FM	LIC NC_		329.3	64.98	37 29 02.0	6.000	43.9	28.2	16.7
Girard		KS		149.1	BLH20040831ABL	94 51 08.0	99	389	Southeast Kansas Independe	
201D	K201IJ	LIC _C_		248.9	30.44	36 52 58.0	0.205	0.0	0.0	9.5R
Miami, Etc.		OK		68.7	BLFT20110506AAR	94 47 46.0	100	349	Creative Educational Media	20.9M
254C1	KWTO-FM	LIC _CY		84.3	104.12	37 04 06.0	100.000	90.7	60.8	25.4
Springfield		MO		265.0	BLH19830217AF	93 18 31.0	168	543	Kwto, Inc.	
252C1	KKEG	LIC ZCN		155.3	104.47	36 07 38.0	100.000	8.7	65.4	37.8
Bentonville		AR		335.5	BLH19960813KA	93 59 23.0	188	588	Cumulus Licensing Lic	
255A	KQOF	LIC _C_		277.6	111.46	37 06 28.0	3.200	84.2	28.9	40.7
Coffeyville		KS		96.9	BLH19990826AAA	95 43 22.0	138	381	Kggf-kusn, Inc.	
256D	K256BG	LIC _C_		157.4	71.66	36 23 11.0	0.205	18.5	12.6	43.6
Bentonville		AR		337.5	BLFT20050204AAT	94 10 06.0	77	462	John Brown University	
255L1	KMRW-LP	CP ____		163.7	91.30	36 11 35.0	0.049			48.9
Springdale		AR		343.9	BNPL20131113BST	94 11 28.0	43	427	Community Educational Radi	

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. 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)
 Incoming contour overlap is ignored.
 "***affixed to 'IN' or 'OUT' values = site inside restricted contour.

HOW TO READ THE FM COMPUTER PRINT-OUT

Translator Reference Station

The computer printout should be self-explanatory for the most part. The parameters of the station being checked, (reference station) are printed in the heading. The 60 dBu protected contour is predicted from the Commission's F(50-50) table. Contour distances are in kilometers and are predicted using the Commission's TVFMINT FORTRAN subroutine. When interference contour distances are less than 16 kilometers the F(50-50) tables are used. If signal contour distances are less than 1.6 km the free-space equation is used.

All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90. The column labeled "* OUT *" shows the greatest distance in kilometers of overlap (or smallest distance of clearance) between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing contour overlap. Since translators are able to receive interference there is no "In" or incoming column in this report.

Listed antenna heights and power are the specific antenna heights and power from the FCC database.

Under the "AZI" column, the first row of numbers indicate the True North azimuths from the reference station toward the database stations, while the numbers in the second row indicate the reverse bearings from the database stations to the reference station. Bearings are calculated using spherical trigonometry.

The columns labeled "INT" and "PRO" contain the distance in kilometers of the appropriate interference contour and the protected contour of a data base station.

For I.F. relationships the minimum spacings the "IN" and "OUT" columns change their significance. The letter "R" stands for the minimum **required** distance in kilometers, while the letter "M" in the next column follows the **available clear space** separation in kilometers. Minimum separation distances when displayed are taken from Sec 73.207 of the rules as amended. Canadian and Mexican separation distances, U/D ratios and protected contour values are from the US/Mexican Working Agreement and the US/Canada Working Agreement".

The first three letters of the "TYPE" column identify the current FCC status of the stations. The fourth letter will be a "D" if the facility is directional. "Z" indicates a 73.215 directional. An "N" indicates it is a 73.215 station that operates with an omni-directional antenna. The fifth letter will be an E, H or V depending on the type of antenna polarization. The sixth letter will be a "Y" if the antenna uses beam tilt or an "X" if the commission is not sure, otherwise it will be an "N" or left blank.

K255AH vs KGVE
Board Of Governors Of Missouri State University

FMCommander Single Allocation Study - 09-03-2015 - FCC NGDC 30 Sec
K255AH's Overlaps (In= 33.98 km, Out= 9.94 km)

K255AH CH 255 D

Lat= 36 58 54.0, Lng= 94 28 36.0

0.14 kW 118 M HAAT, 437 M COR

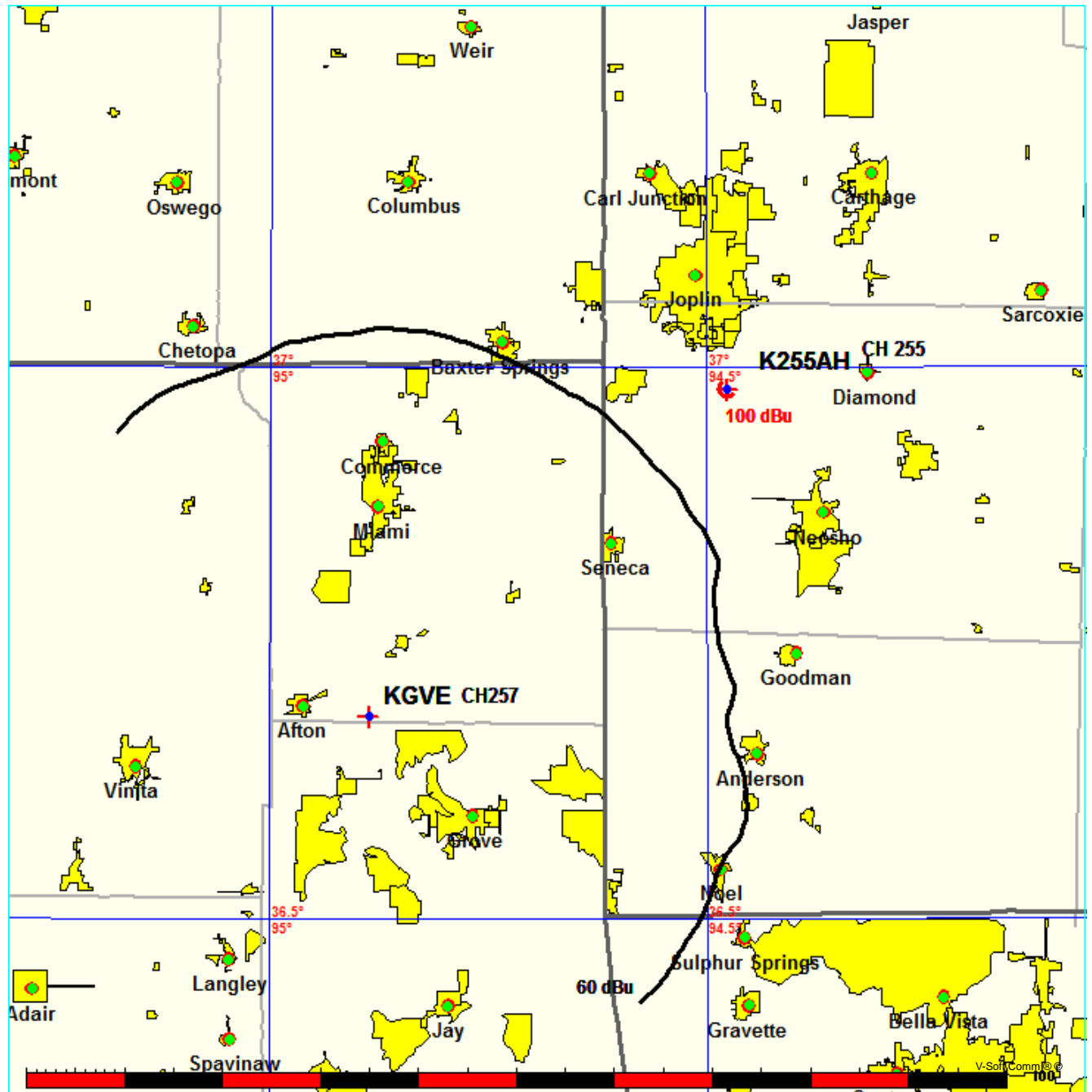
Prot.= 60 dBu, Intef.= 100 dBu

KGVE CH 257 C3 BLH20110523AFC

Lat= 36 41 03.0, Lng= 94 53 11.0

14.5 kW 131 M HAAT, 375 M COR

Prot.= 60 dBu, Intef.= 100 dBu



09-03-2015

Terrain Data: FCC NGDC 30 Sec

FMOver Analysis

KGVE BLH20110523AFC

K255AH

Channel = 257C3

Max ERP = 14.5 kW

RCAMSL = 375 M

N. Lat. 36 41 03.0

W. Lng. 94 53 11.0

Protected

60 dBu

Channel = 255D

Max ERP = 0.14 kW

RCAMSL = 437 M

N. Lat. 36 58 54.0

W. Lng. 94 28 36.0

Interfering

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
348.0	014.5000	0127.2	038.5	276.0	000.1400	0122.6	044.6	38.86	
349.0	014.5000	0126.8	038.5	276.2	000.1400	0122.3	044.0	39.11	
350.0	014.5000	0126.7	038.4	276.5	000.1400	0121.9	043.3	39.36	
351.0	014.5000	0126.9	038.5	276.8	000.1400	0121.4	042.7	39.60	
352.0	014.5000	0127.5	038.5	277.1	000.1400	0120.7	042.1	39.83	
353.0	014.5000	0128.1	038.6	277.4	000.1400	0120.0	041.4	40.06	
354.0	014.5000	0128.2	038.6	277.6	000.1400	0119.5	040.8	40.32	
355.0	014.5000	0128.0	038.6	277.8	000.1400	0119.2	040.1	40.59	
356.0	014.5000	0127.9	038.6	278.0	000.1400	0119.0	039.4	40.86	
357.0	014.5000	0128.2	038.6	278.3	000.1400	0118.8	038.8	41.14	
358.0	014.5000	0128.9	038.7	278.6	000.1400	0118.6	038.1	41.42	
359.0	014.5000	0130.0	038.8	279.0	000.1400	0118.4	037.5	41.70	
000.0	014.5000	0131.3	039.0	279.4	000.1400	0118.3	036.9	41.99	
001.0	014.5000	0132.5	039.2	279.8	000.1400	0118.2	036.2	42.28	
002.0	014.5000	0132.9	039.2	280.0	000.1400	0118.1	035.5	42.60	
003.0	014.5000	0132.6	039.2	280.1	000.1400	0118.1	034.9	42.92	
004.0	014.5000	0132.3	039.1	280.2	000.1400	0118.1	034.2	43.24	
005.0	014.5000	0132.1	039.1	280.2	000.1400	0118.1	033.5	43.57	
006.0	014.5000	0132.0	039.1	280.3	000.1400	0118.1	032.8	43.90	
007.0	014.5000	0131.9	039.1	280.3	000.1400	0118.1	032.1	44.24	
008.0	014.5000	0132.3	039.1	280.5	000.1400	0118.1	031.4	44.58	
009.0	014.5000	0132.5	039.1	280.6	000.1400	0118.1	030.8	44.95	
010.0	014.5000	0132.3	039.1	280.5	000.1400	0118.1	030.1	45.32	
011.0	014.5000	0131.9	039.1	280.4	000.1400	0118.1	029.4	45.72	
012.0	014.5000	0131.5	039.0	280.3	000.1400	0118.1	028.7	46.12	
013.0	014.5000	0131.2	039.0	280.2	000.1400	0118.1	028.0	46.54	
014.0	014.5000	0131.0	039.0	280.0	000.1400	0118.1	027.4	46.97	
015.0	014.5000	0130.7	038.9	279.8	000.1400	0118.1	026.7	47.41	
016.0	014.5000	0130.3	038.9	279.6	000.1400	0118.2	026.0	47.86	
017.0	014.5000	0129.7	038.8	279.2	000.1400	0118.3	025.4	48.33	
018.0	014.5000	0129.2	038.7	278.8	000.1400	0118.4	024.7	48.80	
019.0	014.5000	0128.7	038.7	278.4	000.1400	0118.7	024.0	49.28	
020.0	014.5000	0128.3	038.6	278.0	000.1400	0119.0	023.4	49.78	
021.0	014.5000	0128.0	038.6	277.5	000.1400	0119.8	022.7	50.32	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
022.0	014.5000	0127.7	038.6	277.0	000.1400	0120.9	022.1	50.88
023.0	014.5000	0127.4	038.5	276.4	000.1400	0122.0	021.5	51.44
024.0	014.5000	0127.3	038.5	275.9	000.1400	0122.9	020.8	51.99
025.0	014.5000	0127.3	038.5	275.2	000.1400	0123.6	020.2	52.54
026.0	014.5000	0127.1	038.5	274.5	000.1400	0124.5	019.6	53.09
027.0	014.5000	0126.8	038.4	273.6	000.1400	0124.7	019.0	53.59
028.0	014.5000	0126.3	038.4	272.6	000.1400	0124.5	018.4	54.05
029.0	014.5000	0125.9	038.3	271.5	000.1400	0124.4	017.8	54.51
030.0	014.5000	0125.7	038.3	270.4	000.1400	0124.2	017.2	54.98
031.0	014.5000	0125.9	038.3	269.2	000.1400	0123.8	016.6	55.43
032.0	014.5000	0126.3	038.4	268.1	000.1400	0123.3	016.1	55.88
033.0	014.5000	0126.9	038.5	266.9	000.1400	0122.8	015.5	56.34
034.0	014.5000	0127.5	038.5	265.6	000.1400	0122.7	014.9	56.72
035.0	014.5000	0128.2	038.6	264.2	000.1400	0122.2	014.3	57.34
036.0	014.5000	0128.7	038.7	262.5	000.1400	0121.8	013.8	57.95
037.0	014.5000	0128.9	038.7	260.5	000.1400	0121.0	013.3	58.53
038.0	014.5000	0128.8	038.7	258.3	000.1400	0118.7	012.8	58.96
039.0	014.5000	0128.5	038.7	255.8	000.1400	0119.2	012.5	59.55
040.0	014.5000	0128.2	038.6	253.1	000.1400	0121.0	012.1	60.19
041.0	014.5000	0127.9	038.6	250.2	000.1400	0117.7	011.8	60.43
042.0	014.5000	0127.7	038.6	247.2	000.1400	0114.2	011.5	60.62
043.0	014.5000	0127.6	038.6	244.1	000.1400	0110.4	011.2	60.74
044.0	014.5000	0127.6	038.6	240.8	000.1400	0107.1	011.0	60.83
045.0	014.5000	0127.6	038.5	237.4	000.1400	0102.5	010.9	60.73
046.0	014.5000	0127.4	038.5	233.9	000.1400	0099.0	010.8	60.58
047.0	014.5000	0126.9	038.5	230.3	000.1400	0099.6	010.8	60.64
048.0	014.5000	0126.7	038.4	226.7	000.1400	0099.5	010.8	60.60
049.0	014.5000	0126.9	038.5	223.2	000.1400	0096.2	010.8	60.28
050.0	014.5000	0127.7	038.6	219.6	000.1400	0097.2	010.8	60.36
051.0	014.5000	0128.7	038.7	215.9	000.1400	0103.0	010.8	60.81
052.0	014.5000	0129.6	038.8	212.4	000.1400	0113.7	010.9	61.49
053.0	014.5000	0130.0	038.8	209.0	000.1400	0115.3	011.2	61.25
054.0	014.5000	0129.7	038.8	206.0	000.1400	0116.8	011.5	60.83
055.0	014.5000	0128.8	038.7	203.4	000.1400	0115.4	011.9	60.07
056.0	014.5000	0127.9	038.6	201.1	000.1400	0112.6	012.4	59.18
057.0	014.5000	0127.5	038.5	198.7	000.1400	0110.8	012.8	58.41
058.0	014.5000	0127.8	038.6	196.4	000.1400	0109.1	013.2	57.73
059.0	014.5000	0128.8	038.7	193.9	000.1400	0105.8	013.6	56.98
060.0	014.5000	0129.9	038.8	191.6	000.1400	0103.5	014.0	56.28
061.0	014.5000	0130.4	038.9	189.7	000.1400	0101.5	014.5	55.53
062.0	014.5000	0130.1	038.9	188.2	000.1400	0100.2	015.1	54.95
063.0	014.5000	0129.8	038.8	186.9	000.1400	0098.9	015.6	54.33
064.0	014.5000	0130.1	038.8	185.5	000.1400	0097.5	016.2	53.74
065.0	014.5000	0130.4	038.9	184.2	000.1400	0096.9	016.8	53.21
066.0	014.5000	0129.8	038.8	183.3	000.1400	0096.6	017.4	52.65
067.0	014.5000	0127.3	038.5	183.2	000.1400	0096.5	018.1	52.03
068.0	014.5000	0123.9	038.1	183.5	000.1400	0096.6	018.9	51.40
069.0	014.5000	0120.3	037.7	183.8	000.1400	0096.7	019.7	50.77
070.0	014.5000	0117.2	037.3	184.0	000.1400	0096.8	020.4	50.18
071.0	014.5000	0115.3	037.0	183.9	000.1400	0096.8	021.1	49.63
072.0	014.5000	0114.1	036.9	183.7	000.1400	0096.7	021.8	49.11

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
073.0	014.5000	0113.2	036.8	183.4	000.1400	0096.6	022.4	48.61
074.0	014.5000	0112.5	036.7	183.1	000.1400	0096.5	023.1	48.12
075.0	014.5000	0111.7	036.5	182.9	000.1400	0096.5	023.7	47.65
076.0	014.5000	0111.4	036.5	182.5	000.1400	0096.5	024.3	47.19
077.0	014.5000	0110.7	036.4	182.3	000.1400	0096.4	025.0	46.73
078.0	014.5000	0110.5	036.4	182.1	000.1400	0096.3	025.6	46.29
079.0	014.5000	0110.6	036.4	181.7	000.1400	0096.3	026.2	45.87
080.0	014.5000	0111.2	036.5	181.2	000.1400	0096.2	026.8	45.46
081.0	014.5000	0112.0	036.6	180.8	000.1400	0096.2	027.4	45.07
082.0	014.5000	0113.2	036.8	180.2	000.1400	0096.1	028.0	44.68
083.0	014.5000	0114.5	036.9	179.7	000.1400	0096.1	028.7	44.30
084.0	014.5000	0115.9	037.1	179.2	000.1400	0096.1	029.3	43.94
085.0	014.5000	0117.1	037.3	178.8	000.1400	0096.3	029.9	43.59
086.0	014.5000	0117.7	037.4	178.6	000.1400	0096.4	030.6	43.24
087.0	014.5000	0116.3	037.2	178.9	000.1400	0096.3	031.2	42.89
088.0	014.5000	0114.4	036.9	179.3	000.1400	0096.1	031.9	42.54
089.0	014.5000	0112.4	036.6	179.8	000.1400	0096.1	032.5	42.23
090.0	014.5000	0110.5	036.4	180.3	000.1400	0096.1	033.2	41.93
091.0	014.5000	0110.8	036.4	180.2	000.1400	0096.1	033.8	41.64
092.0	014.5000	0112.2	036.6	179.9	000.1400	0096.1	034.4	41.33
093.0	014.5000	0113.6	036.8	179.6	000.1400	0096.1	035.1	41.03
094.0	014.5000	0115.0	037.0	179.4	000.1400	0096.0	035.7	40.74
095.0	014.5000	0116.7	037.2	179.2	000.1400	0096.2	036.4	40.45
096.0	014.5000	0120.1	037.6	178.6	000.1400	0096.4	037.1	40.16
097.0	014.5000	0123.4	038.0	178.2	000.1400	0096.5	037.8	39.85
098.0	014.5000	0126.4	038.4	177.8	000.1400	0096.6	038.5	39.55
099.0	014.5000	0128.7	038.7	177.6	000.1400	0096.7	039.2	39.25
100.0	014.5000	0130.6	038.9	177.5	000.1400	0096.7	040.0	38.95
101.0	014.5000	0132.4	039.1	177.4	000.1400	0096.7	040.7	38.66
102.0	014.5000	0134.1	039.4	177.3	000.1400	0096.8	041.4	38.36
103.0	014.5000	0135.6	039.5	177.3	000.1400	0096.8	042.1	38.07
104.0	014.5000	0136.7	039.7	177.4	000.1400	0096.7	042.8	37.78
105.0	014.5000	0137.0	039.7	177.6	000.1400	0096.7	043.5	37.51
106.0	014.5000	0137.0	039.7	177.9	000.1400	0096.6	044.1	37.24
107.0	014.5000	0136.6	039.7	178.3	000.1400	0096.5	044.8	36.98