Kanza Society, Inc.
Application for New Noncommercial Educational Broadcast Station
Dalhart, TX, CH 207, CLASS A
FCC Form 340
October 12, 2007

EXHIBIT 16: Contour Overlap and Spacing Requirements

Documentation for Form 340, Section VII, Items 15a and 15b

This exhibit is divided into the following sections to fully address the questions included under Section 73.509 and Section 73.207, as applicable.

16a
Contour overlap study for co-, 1st, 2nd ad 3rd adjacent channels and channel 53 or 54 channels removed (IF) separations

A general interference study using the average HAAT of eight standard radials was initially conducted and found no prohibited interference as detailed in the table below. However three facilities were identified for more detailed study in Section 16b: KTOT (208 C0, 1st adjacent), KXLV (206 C2, 1st adjacent) and KACV (210 C, 3rd adjacent) as highlighted in the table below.

BIAfn/Dataworld FM Channel Study

Study parameters:
Safety Zone: 30.0 km (18.6 mi)
Safety dB: 3.0
Channel(s): 207 A
Coordinates: N 36° 06' 35.0" W 102° 30' 30.9"
Effective radiated power: 0.5 kW
Antenna 104.1 m (341.4 ft) above average terrain
FM Translators excluded
Sunday, October 07, 2007
Database: FCC 10/5/2007 12:00:00 AM
Stations identified for detailed contour overlap studies (see Section 16c) are highlighted.

Call	Auth	Licensee name	Chan	HAAT(m)	ERP	Latitude	Br-to	Dist	Req
City of License		St FCC File Number	Freq	HAMSL(m)	(kW)	Longitude	-from	(km)	(km)
KASV	LIC	TOP O' TEXAS EDUCATIONAL BROADCA	*204 C3	62.0	10 H	N 35° 40' 42.0"	115.1	111.9	26.89
BORGER		TX BLED-19980511KD	88.7	982.0	3 V	W 101° 23' 18.0"	295.8	85.00	CLEAR
Proposed Channel 207 A 100 dBuV/m F(50,10) Interfering contour = 1.3 km						KASV Channel 204 C3 60 dBuV/m F(50,50) Service contour = 25.6 km			
Proposed Channel 207 A 60 dBuV/m F(50,50) Service contour = 15.7 km						KASV Channel 204 C3 100 dBuV/m F(50,10) Interfering contour = 2.7 km			
KARU	LIC	EDUCATIONAL MEDIA FOUNDATION	*205 A	79.0		N 34° 38' 10.0"	114.2	383.4	16.96
CACHE		OK BLED-20050721ABL	88.9	493.0	0.44 V	W 98° 41' 32.0"	296.4	366.5	CLEAR
Proposed Channel 207 A 100 dBuV/m F(50,10) Interfering contour = 1.3 km						KARU Channel 205 A 60 dBuV/m F(50,50) Service contour = 13.2 km			
Proposed Channel 207 A 60 dBuV/m F(50,50) Service contour = 15.7 km						KARU Channel 205 A 100 dBuV/m F(50,10) Interfering contour = 1.2 km			
KXLV	LIC	EDUCATIONAL MEDIA FOUNDATION	*206 C2	122.2	27.5 H	N 35° 15' 41.0"	148.8	109.9	81.07
AMARILLO		TX BLED-20051011ACX	89.1	1196.0	27.5 V	W 101° 52' 52.0"	329.2	28.86	CLEAR
Proposed Channel 207 A 54 dBuV/m F(50,10) Interfering contour = 23.6 km						KXLV Channel 206 C2 60 dBuV/m F(50,50) Service contour = 43.1 km			
Proposed Channel 207 A 60 dBuV/m F(50,50) Service contour = 15.7 km						KXLV Channel 206 C2 54 dBuV/m F(50,10) Interfering contour = 65.3 km			
KTAW	CP	EDUCATIONAL COMMUNICATIONS OF CO	*207 A	111.0		N 37° 37' 39.0"	310.1	266.3	92.02
WESTCLIFFE		CO BPED-19971112MD	89.3	2065.0	2.7 V	W 104° 49' 17.0"	128.7	174.2	CLEAR
Amended 98021									
Proposed Channel 207 A 40 dBuV/m F(50,10) Interfering contour = 52.9 km						KTAW Channel 207 A 60 dBuV/m F(50,50) Service contour = 24.8 km			
Proposed Channel 207 A 60 dBuV/m F(50,50) Service contour = 15.7 km						KTAW Channel 207 A 40 dBuV/m F(50,10) Interfering contour = 76.3 km			
KTOT	LIC	KANZA SOCIETY, INC.	*208 C0	325.0	100 H	N 36° 03' 44.0"	91.8	133.1	123.6
SPEARMAN		TX BLED-20021115ABX	89.5	1227.0	100 V	W 101° 01' 56.0"	272.7	9.521	CLOSE
Proposed Channel 207 A 54 dBuV/m F(50,10) Interfering contour = 23.6 km						KTOT Channel 208 C0 60 dBuV/m F(50,50) Service contour = 74.2 km			
Proposed Channel 207 A 60 dBuV/m F(50,50) Service contour = 15.7 km						KTOT Channel 208 C0 54 dBuV/m F(50,10) Interfering contour = 107.8 km			

Call	Auth	Licensee name		Chan	HAAT(m)	ERP	Latitude	Br-to	Dist	Req
City of License		St	FCC File Number	Freq	HAMSL(m)	(kW)	Longitude	-from	(km)	(km)
KJWA	APP	WAY-FM MEDIA GROUP, INC.		*209 A	241.0	0.9 H	N 37° 14' 14.0"	305.6	218.6	28.76
TRINIDAD		CO	BMPED-20070620ABW	89.7	2176.0	0.9 V	W 104° 30' 52.0"	124.4	189.9	CLEAR
Proposed Channel 207 A 100 dBuV/m F(50,10) Interfering contour = 1.3 km							KJWA Channel 209 A 60 dBuV/m F(50,50) Service contour = 27.4 km			
Proposed Channel 207 A 60 dBuV/m F(50,50) Service contour = 15.7 km							KJWA Channel 209 A 100 dBuV/m F(50,10) Interfering contour = 1.9 km			
KACV-FM	LIC	AMARILLO JUNIOR COLLEGE DISTRICT		*210 C	352.0	100 H	N 35° 20' 33.0"	143.8	105.4	77.56
AMARILLO		TX	BLED-19900208KD	89.9	1384.0	100 V	W 101° 49' 21.0"	324.2	27.79	CLEAR
Proposed Channel 207 A 100 dBuV/m F(50,10) Interfering contour = 1.3 km							KACV-FM Channel 210 C 60 dBuV/m F(50,50) Service contour = 76.2 km			
Proposed Channel 207 A 60 dBuV/m F(50,50) Service contour = 15.7 km							KACV-FM Channel 210 C 100 dBuV/m F(50,10) Interfering contour = 10.9 km			

IF Spacing (73.207)

KTQM-FM	USE	CURRY COUNTY BROADCASTING, INC.		260 C1			N 34° 21' 48.0"	198.6	204.2	22.00
CLOVIS		NM		99.9			W 103° 13' 05.0"	18.2	182.2	CLEAR
Coordinates updated from LIC record BLH722; Assumed ERP: 100 kW; HAAT: 299 m; Required separation derived from section 73.207 of FCC rules										
Proposed Channel 207 A 91 dBuV/m F(50,10) Interfering contour = 2.6 km							KTQM-FM Channel 260 C1 91 dBuV/m F(50,50) Service contour = 16.9 km			
	VAC			261 C			N 36° 14' 36.0"	294.3	36.28	29.00
DALHART		TX	RM-10657	100.1			W 102° 52' 36.0"	114.1	7.282	CLOSE
site restriction 38.6 kilo; 24 miles northwes; Assumed ERP: 100 kW; HAAT: 600 m; Required separation derived from section 73.207 of FCC rules										

>> End of channel 207 A study <<

16b
Detailed Interference Study

Given the general proximity of prohibited contour overlaps in the general interference study (16a) from stations KTOT (208 C0, 1st adjacent), KXLV (206 C2, 1st adjacent) and KACV (210 C, 3rd adjacent), a detailed interference study along each of 360 radials was conducted.

BIAfn/Dataworld Detailed FM Interference Study

Study parameters:

Safety Zone: 30.0 km (18.6 mi)
Safety dB: 6.0
Channel(s): 207 A
Coordinates: N 36° 06' 35.0" W 102° 30' 30.9"
Effective radiated power: 0.5 kW
Antenna 1326 m (4349.3 ft) above mean sea level
Directional antenna: Non-DA
Terrain from USGS 3-second Database
FM Translators excluded
Sunday, October 07, 2007
Database: FCC 10/5/2007 12:00:00 AM

KTOT-FM study

For KTOT (208 C0, 1st adjacent, licensed to the applicant) the study was first run to examine potential overlap of the KTOT 60 dBuV/m (50/50) protected contour and the Proposed 54 dBuV/m (50/10) interference contour. Across all radials a clearance margin of at least 6 dB was shown to exist (the dB safety limit set for the study).

The study then examined potential overlap of the Proposed 60 dBuV/m (50/50) protected contour and the KTOT 54 dBuV/m (50/10) interference contour. Across all radials a clearance margin of at least 3.5 dB was shown to exist with the closest margins falling along the 97-98 degree radials (toward KTOT). The measurements for the 51 most critical radials are included below (those with <= 4.0 dB margin). Those radials with the minimum 3.5 dB margin are highlighted.

For further reference, a map of the protected and interfering contours of KTOT and the proposed station is included as Section 16c of this exhibit.

Proposed 207 A 60 dBuV/m Protected Contour						**KTOT 208 C0 54 dBuV/m Interference Contour**						
Az (deg)	HAAT (m)	ERP (dBk)	Dist (km)	Latitude	Longitude	Az (deg)	HAAT (m)	ERP (dBk)	Dist (km)	F.S. (dBuV/m)	Margin (dB)	Allowed ERP (dBkW)
70.8	111.8	-3	16.4	N 36° 09' 28.6"	W 102° 20' 10.3"	275.6	274.3	20	117.9	50	4.0	1
71.8	112.3	-3	16.4	N 36° 09' 20.2"	W 102° 20' 05.1"	275.5	274.4	20	117.7	50	4.0	1
72.8	113.6	-3	16.5	N 36° 09' 12.5"	W 102° 19' 57.3"	275.3	274.4	20	117.5	50.1	3.9	0.9
73.8	114.3	-3	16.6	N 36° 09' 04.0"	W 102° 19' 51.7"	275.2	274.4	20	117.4	50.1	3.9	0.9
74.8	114.9	-3	16.6	N 36° 08' 55.4"	W 102° 19' 46.7"	275.1	274.5	20	117.2	50.1	3.9	0.9

Proposed 207 A 60 dBuV/m Protected Contour						KTOT 208 C0 54 dBuV/m Interference Contour						
Az (deg)	HAAT (m)	ERP (dBk)	Dist (km)	Latitude	Longitude	Az (deg)	HAAT (m)	ERP (dBk)	Dist (km)	F.S. (dBuV/m)	Margin (dB)	Allowed ERP (dBkW)
75.8	115.8	-3	16.7	N 36° 08' 46.9"	W 102° 19' 41.0"	275	274.5	20	117.1	50.2	3.8	0.8
76.8	116.3	-3	16.8	N 36° 08' 38.0"	W 102° 19' 36.7"	274.8	274.6	20	116.9	50.2	3.8	0.8
77.8	116.8	-3	16.8	N 36° 08' 29.0"	W 102° 19' 32.8"	274.7	274.6	20	116.8	50.2	3.8	0.8
78.8	117.2	-3	16.8	N 36° 08' 19.9"	W 102° 19' 29.0"	274.6	274.6	20	116.7	50.3	3.7	0.7
79.8	117.8	-3	16.9	N 36° 08' 10.8"	W 102° 19' 25.1"	274.4	274.6	20	116.6	50.3	3.7	0.7
80.8	118.3	-3	16.9	N 36° 08' 01.6"	W 102° 19' 21.7"	274.3	274.7	20	116.5	50.3	3.7	0.7
81.8	118.7	-3	16.9	N 36° 07' 52.3"	W 102° 19' 18.6"	274.2	274.7	20	116.4	50.3	3.7	0.7
82.8	118.7	-3	16.9	N 36° 07' 42.8"	W 102° 19' 17.0"	274	274.7	20	116.3	50.3	3.7	0.6
83.8	118.6	-3	16.9	N 36° 07' 33.3"	W 102° 19' 16.0"	273.9	274.8	20	116.3	50.4	3.6	0.6
84.8	118.5	-3	16.9	N 36° 07' 23.7"	W 102° 19' 15.1"	273.7	274.8	20	116.3	50.4	3.6	0.6
85.8	118.6	-3	16.9	N 36° 07' 14.2"	W 102° 19' 14.0"	273.6	274.8	20	116.2	50.4	3.6	0.6
86.8	118.9	-3	17	N 36° 07' 04.7"	W 102° 19' 12.2"	273.4	274.8	20	116.2	50.4	3.6	0.6
87.8	119.3	-3	17	N 36° 06' 55.1"	W 102° 19' 10.6"	273.3	274.9	20	116.1	50.4	3.6	0.6
88.8	119.7	-3	17	N 36° 06' 45.6"	W 102° 19' 09.2"	273.2	274.9	20	116.1	50.4	3.6	0.6
89.8	119.8	-3	17	N 36° 06' 36.0"	W 102° 19' 08.6"	273	274.9	20	116	50.4	3.6	0.6
90.8	119.9	-3	17	N 36° 06' 26.3"	W 102° 19' 08.4"	272.9	274.9	20	116	50.4	3.6	0.6
91.8	120.1	-3	17	N 36° 06' 16.7"	W 102° 19' 08.2"	272.7	274.9	20	116	50.4	3.6	0.6
92.8	120.4	-3	17.1	N 36° 06' 07.0"	W 102° 19' 07.9"	272.6	274.9	20	116	50.4	3.6	0.6
93.8	121	-3	17.1	N 36° 05' 57.3"	W 102° 19' 06.8"	272.4	274.9	20	115.9	50.4	3.6	0.6
94.8	121.6	-3	17.2	N 36° 05' 47.5"	W 102° 19' 05.9"	272.3	274.8	20	115.9	50.4	3.6	0.5
95.8	122.3	-3	17.2	N 36° 05' 37.7"	W 102° 19' 05.1"	272.1	274.8	20	115.9	50.4	3.6	0.5
96.8	122.9	-3	17.2	N 36° 05' 27.9"	W 102° 19' 04.7"	272	274.8	20	115.9	50.5	3.5	0.5
97.8	123.4	-3	17.3	N 36° 05' 18.1"	W 102° 19' 04.7"	271.8	274.7	20	115.9	50.5	3.5	0.5
98.8	123.8	-3	17.3	N 36° 05' 08.3"	W 102° 19' 05.6"	271.7	274.7	20	115.9	50.4	3.6	0.5
99.8	124	-3	17.3	N 36° 04' 58.5"	W 102° 19' 06.9"	271.5	274.7	20	115.9	50.4	3.6	0.5
100.8	124.2	-3	17.3	N 36° 04' 48.8"	W 102° 19' 08.5"	271.4	274.6	20	115.9	50.4	3.6	0.6
101.8	124.4	-3	17.4	N 36° 04' 39.1"	W 102° 19' 10.3"	271.2	274.6	20	116	50.4	3.6	0.6
102.8	124.9	-3	17.4	N 36° 04' 29.3"	W 102° 19' 11.5"	271.1	274.5	20	116	50.4	3.6	0.6
103.8	125.6	-3	17.4	N 36° 04' 19.3"	W 102° 19' 12.5"	270.9	274.5	20	116	50.4	3.6	0.6
104.8	126.2	-3	17.5	N 36° 04' 09.4"	W 102° 19' 13.9"	270.8	274.4	20	116.1	50.4	3.6	0.6
105.8	126.8	-3	17.5	N 36° 03' 59.5"	W 102° 19' 15.3"	270.6	274.4	20	116.1	50.4	3.6	0.6
106.8	127.3	-3	17.6	N 36° 03' 49.7"	W 102° 19' 17.5"	270.5	274.3	20	116.2	50.4	3.6	0.6
107.8	127.6	-3	17.6	N 36° 03' 40.0"	W 102° 19' 20.4"	270.3	274.3	20	116.2	50.4	3.6	0.6
108.8	127.8	-3	17.6	N 36° 03' 30.4"	W 102° 19' 23.8"	270.2	274.2	20	116.3	50.3	3.7	0.7
109.8	127.9	-3	17.6	N 36° 03' 21.0"	W 102° 19' 27.6"	270	274.2	20	116.4	50.3	3.7	0.7
110.8	128	-3	17.6	N 36° 03' 11.5"	W 102° 19' 31.5"	269.9	274.1	20	116.5	50.3	3.7	0.7
111.8	128.2	-3	17.6	N 36° 03' 02.1"	W 102° 19' 35.5"	269.7	274	20	116.6	50.3	3.7	0.7

Proposed 207 A 60 dBuV/m Protected Contour						KTOT 208 C0 54 dBuV/m Interference Contour						
Az (deg)	HAAT (m)	ERP (dBk)	Dist (km)	Latitude	Longitude	Az (deg)	HAAT (m)	ERP (dBk)	Dist (km)	F.S. (dBuV/m)	Margin (dB)	Allowed ERP (dBkW)
112.8	128.4	-3	17.6	N 36° 02' 52.7"	W 102° 19' 39.8"	269.6	274	20	116.7	50.2	3.8	0.8
113.8	128.5	-3	17.7	N 36° 02' 43.5"	W 102° 19' 44.4"	269.5	273.9	20	116.9	50.2	3.8	0.8
114.8	128.6	-3	17.7	N 36° 02' 34.3"	W 102° 19' 49.3"	269.3	273.9	20	117	50.2	3.8	0.8
115.8	128.7	-3	17.7	N 36° 02' 25.2"	W 102° 19' 54.4"	269.2	273.8	20	117.1	50.1	3.9	0.8
116.8	128.8	-3	17.7	N 36° 02' 16.2"	W 102° 19' 59.6"	269.1	273.8	20	117.3	50.1	3.9	0.9
117.8	128.9	-3	17.7	N 36° 02' 07.2"	W 102° 20' 05.0"	268.9	273.7	20	117.4	50.1	3.9	0.9
118.8	128.9	-3	17.7	N 36° 01' 58.4"	W 102° 20' 10.9"	268.8	273.6	20	117.6	50	4.0	1
119.8	128.8	-3	17.7	N 36° 01' 49.8"	W 102° 20' 17.1"	268.7	273.6	20	117.7	50	4.0	1
120.8	128.7	-3	17.7	N 36° 01' 41.3"	W 102° 20' 23.8"	268.5	273.5	20	117.9	50	4.0	1

KXLV study

For KXLV (206 C2, 1st adjacent) the study was first run to examine potential overlap of the KXLV 60 dBuV/m (50/50) protected contour and the Proposed 54 dBuV/m (50/10) interference contour. Across all radials a clearance margin of at least 5.9 dB was shown to exist.

The study then examined potential overlap of the Proposed 60 dBuV/m (50/50) protected contour and the KXLV 54 dBuV/m (50/10) interference contour. Across all radials a clearance margin of at least 6 dB was shown to exist (the dB safety limit set for the study).

KACV study

For KACV (210 C, 3rd adjacent) the study showed a margin of at least 6 dB between the 60 dBuV/m (50/50) protected contours and the 54 dBuV/m (50/10) interference contours of both KACV and the Proposed station.

16c. Map of contour protection with KTOT

Dalhart, TX - Proposed Ch. 207A - KTOT

Prepared by BIA fn / dataworld®

102°W 101°W 36°N

KTOT(FM) License
54 dBuV/m (50,10)

KTOT(FM) License
60 dBuV/m (50,50)

Proposed Ch. 207 A
54 dBuV/m (50,10)

Proposed Ch. 207 A
60 dBuV/m (50,50)

Proposed FM Site

KTOT(FM) License Site

Castaneda, Sturgis, Hough, Mouser, Hooker, Keyes, Eva, Burton, Boise City, Optima, Guymon, Optima Lake, Conrad, Hardesty, Texhoma, Hitchland, Kerrick, Mallett, Stratford, Bernstein, Farnsworth, Palo Duro Reservoir, Gruver, Waka, Spearman, Conlen, Lautz, Chamberlin, McKibben, Cactus, Morse, Dalhart, Exum, Sunray, Capps, Machovec, Pringle, Hartley, Dumas, Stinnett, Bautista, Four Way, Sanford, Channing, Masterson, Fritch, Borger, Bunavista, Skellytown, Lake Meredith, Marsh, McBride, Cargray, Pampa, Ady, Puente, Pomeroy, White Deer, Kingsmill, Boden, Chunky, Cuyler, Abell, Juilliard, Panhandle, Gentry, Saint Francis, Amarillo, Pullman

OKLAHOMA, TEXAS

CIMARRON, DALLAM, SHERMAN, HANSFORD, OCHIL-TREE, MOORE, ROBERTS, HUTCHINSON, HARTLEY, POTTER, CARSON, OLDHAM, GRAY, RANDALL

- Proposed FM 207A Transmitter Site:
  N 36-06-35 W 102-30-30.9
  AMSL = 1326 Meters ERP = .5 kW
- KTOT(FM) License Transmitter Site:
  N 36-03-44 W 101-01-56

Scale = 1:800,000 October 9, 2007

0 10 20 30 Miles
0 25 50 Kilometers