

Non-Interference Compliance

Regarding Facility id 148870

Channel 261

Description of Exhibit 13 Contents

This exhibit demonstrates that the proposed facility complies with contour overlap and interference protection provisions in all of the applicable rule sections and that this application for a construction permit is in full compliance with 47 C.F.R. § 74.1204.

Let it be noted that should any actual real world interference occur, the applicant acknowledges that it will promptly suspend operation of this translator in accordance with 47 C.F.R. § 74.1203.

Page 2 of this exhibit is an explanation of the method used to demonstrate compliance with contour overlap and interference provisions based on 47 C.F.R. § 74.1204(d), which states:

[A]n application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable.

Page 3 contains a tabulation of the vertical radiation pattern of the proposed antenna and the minimum ground clearance of the interfering contour based on this pattern.

Pages 4 through 5 include a tabulation of the vertical radiation pattern for the proposed antenna provided by the antenna manufacturer.

Page 6 of this exhibit contains the tabulated data from the interference analysis, which shows all stations whose protected contours come within 50 km of the 34 dBμ F(50,10) contour of the proposed translator. These tabulated values were calculated using data from the FCC's CDBS files and 30 arc second terrain data. The column labeled "Adj" shows the number of channels difference between the entry and the proposed translator. The column labeled "Dist" shows the distance in km. The column labeled "Overlap" shows the area of contour overlap in square kilometers.

Page 7 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 minute quadrangle at full scale with the calculated area of interference overlaid. The sheet includes the quadrangle name and measurement scale at the bottom-left corner (note: "Mt" refers to meters). The area of interference was calculated using the free space equation and 120 radials.

Pages 8 and 9 of this exhibit are aerial photos of the vicinity surrounding the proposed translator's tower site.

Compliance with 47 C.F.R. § 74.1204(d)

All authorized second and third adjacent stations with which the proposed translator has contour overlap are tabulated below. Column four show the station's signal level at the proposed translator's tower site, and column five gives the minimum value within the entire standard interfering contour of the proposed translator (100 dBμ for most classes, 94 for class B, 97 for class B1). The minimum second or third adjacent F(50,50) contour within the proposed translator's standard interfering contour was used to calculate the proposed translator's actual "worst-case" interfering contour.

Application_id	File Number	Callsign	Contour at Tower	Min. Contour
277005	BLH19981112KO	KBTN-FM	61.6	61.6
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				61.6

FCC 02-244 at Section II.A.5 states that "when demonstrating that 'no actual interference will occur due to . . . other factors,' pursuant to Section 74.1204(d), an applicant may use the undesired-to-desired signal ratio method." The undesired-to-desired ratio for second and third adjacent stations required by § 74.1204(a) is 40 dB. Since the minimum protected contour strength within the proposed translator's standard interference contour is **61.6 dBμ**, this makes the proposed translator's worst-case interfering contour **101.6 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **922.5 m** from the transmit antenna.

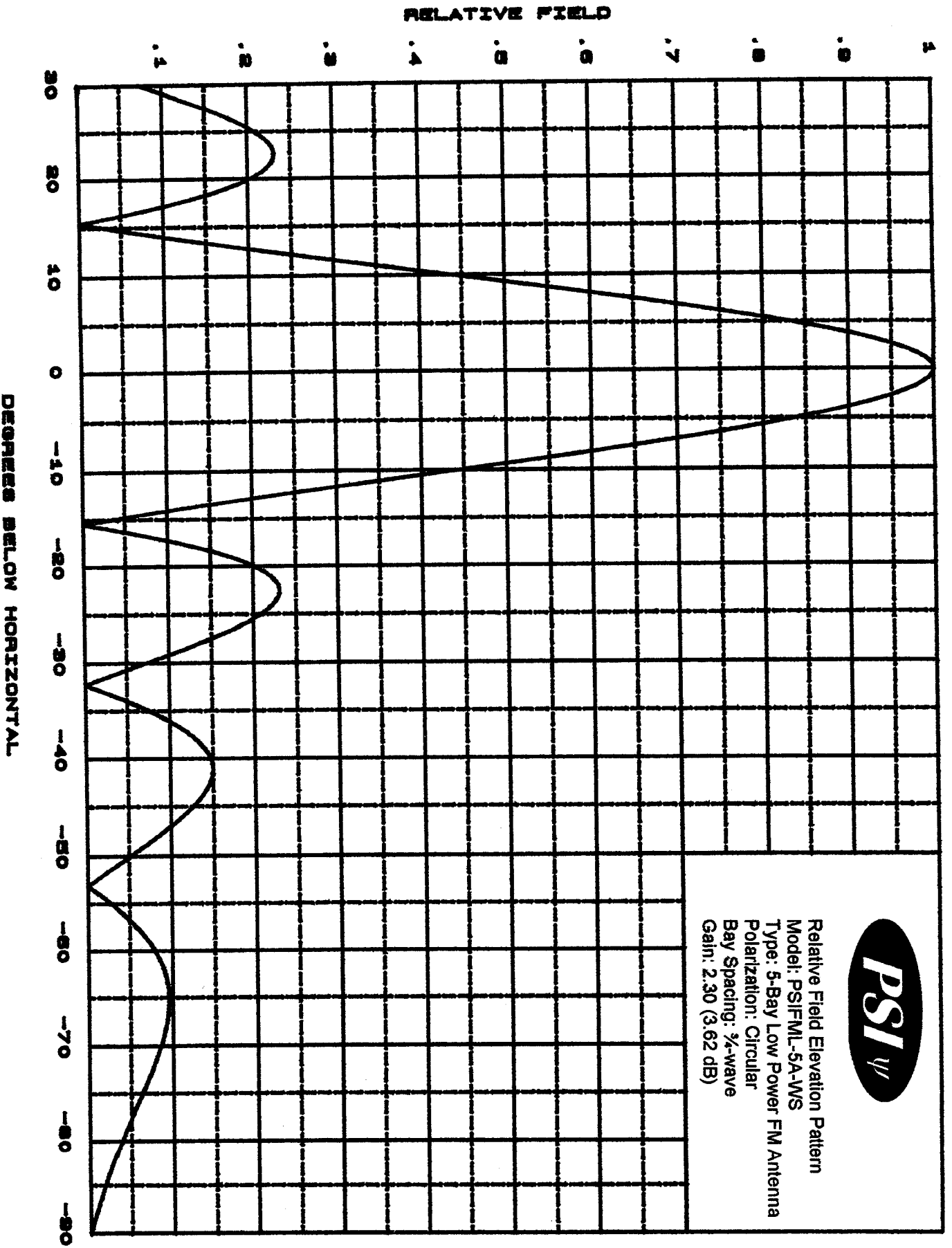
The maximum horizontal plane of the interfering contour was calculated for 120 radials and plotted on the pertinent portion of a USGS quadrangle (page 7 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative fields are tabulated on the following page at 5 degree increments, starting at 5 degrees below horizontal. Antenna relative field strength data was provided and certified by the manufacturer of the proposed antenna. Using a free-space calculation that neglects any loss due to reflection, the vertical ground clearance of the proposed translator's interference contour has been tabulated. As shown on the following page, the area of interference clears the tower ground level (TGL) by **19.8 m** at the lowest point. The applicant has taken into account USGS quadrangles and relevant aerial photography in stating that no structures, except possibly tower support structures, puncture the area of interference. Hence, in accordance with 47 C.F.R. § 74.1204(d) and the clarification provided by the FCC in the decision *Re: Living Way Ministries* (FCC 02-244), a lack of population has been demonstrated within the area of interference and this application is therefore in full compliance with 47 C.F.R. § 74.1204.

Antenna Manufacturer:	PSI
Antenna Model:	FML-5(.75)
CORAGL:	107 m
Maximum ERP:	0.25 kW
Interfering Contour:	101.6 dBμ
Max Int. Contour Distance:	922.5 m
Min Ground Clearance:	19.8 m

Depression Angle Below Horizontal	Antenna Relative Field	ERP (watts)	Distance to Interfering Contour from Antenna (m)	Horizontal Distance of Interfering Contour from Tower (m)	Vertical Clearance of Interfering Contour above TGL (m)
5	.836	174.7	771.2	768.3	39.8
10	.440	48.4	405.9	399.7	36.5
15	.031	0.2	28.6	27.6	99.6
20	.202	10.2	186.3	175.1	43.3
25	.208	10.8	191.9	173.9	25.9
30	.071	1.3	65.5	56.7	74.3
35	.077	1.5	71.0	58.2	66.3
40	.147	5.4	135.6	103.9	19.8
45	.128	4.1	118.1	83.5	23.5
50	.051	0.7	47.0	30.2	71.0
55	.028	0.2	25.8	14.8	85.8
60	.079	1.6	72.9	36.4	43.9
65	.095	2.3	87.6	37.0	27.6
70	.085	1.8	78.4	26.8	33.3
75	.063	1.0	58.1	15.0	50.9
80	.039	0.4	36.0	6.2	71.6
85	.018	0.1	16.6	1.4	90.5
90	.001	0.0	0.9	0.0	106.1
Minimum Clearance above TGL:					19.8 m



Relative Field Elevation Pattern
Model: PSIFML-5A-WS
Type: 5-Bay Low Power FM Antenna
Polarization: Circular
Bay Spacing: $\frac{1}{4}$ -wave
Gain: 2.30 (3.62 dB)





Propagation Systems Inc.
Elevation Pattern Tabulation
Antenna: PSIFML-5 Special
Bay spacing: 3/4 wave

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.0	0.001	-60.000	-50.0	0.051	-25.838	-10.0	0.440	-7.134	-19.690	0.104	-17.413
-89.0	0.003	-49.156	-49.0	0.068	-23.365	-9.0	0.528	-5.552	-13.056	0.222	-12.771
-88.0	0.007	-43.136	-48.0	0.084	-21.505	-8.0	0.613	-4.248	-13.631	0.208	-13.056
-87.0	0.010	-39.614	-47.0	0.100	-20.040	-7.0	0.694	-3.170	-14.515	0.188	-15.747
-86.0	0.014	-37.021	-46.0	0.114	-18.890	-6.0	0.769	-2.280	-15.169	0.174	-17.277
-85.0	0.018	-34.953	-45.0	0.126	-17.988	-5.0	0.836	-1.558	-16.090	0.163	-18.888
-84.0	0.022	-33.224	-44.0	0.136	-17.316	-4.0	0.893	-0.984	-17.277	0.150	-19.741
-83.0	0.026	-31.782	-43.0	0.144	-16.846	-3.0	0.939	-0.549	-18.888	0.137	-20.930
-82.0	0.030	-30.458	-42.0	0.148	-16.566	-2.0	0.972	-0.243	-20.501	0.122	-22.912
-81.0	0.034	-29.270	-41.0	0.150	-16.487	-1.0	0.993	-0.061	-20.684	0.103	-24.0
-80.0	0.039	-28.226	-40.0	0.147	-16.629	0.0	1.000	0.000	-20.915	0.090	-25.838
-79.0	0.043	-27.233	-39.0	0.141	-17.003	1.0	0.993	-0.061	-20.915	0.071	-27.277
-78.0	0.048	-26.342	-38.0	0.131	-17.651	2.0	0.972	-0.243	-20.915	0.052	-28.888
-77.0	0.053	-25.510	-37.0	0.117	-18.650	3.0	0.939	-0.549	-20.915	0.034	-30.241
-76.0	0.058	-24.727	-36.0	0.099	-20.106	4.0	0.893	-0.984	-20.915	0.022	-31.782
-75.0	0.063	-24.030	-35.0	0.077	-22.291	5.0	0.836	-1.557	-20.915	0.018	-33.224
-74.0	0.068	-23.385	-34.0	0.052	-25.736	6.0	0.769	-2.280	-20.915	0.013	-34.953
-73.0	0.073	-22.784	-33.0	0.023	-32.584	7.0	0.694	-3.168	-20.915	0.007	-36.888
-72.0	0.077	-22.257	-32.0	0.007	-43.327	8.0	0.613	-4.248	-20.915	0.002	-38.888
-71.0	0.081	-21.791	-31.0	0.039	-28.226	9.0	0.528	-5.549	-20.915	0.001	-40.930
-70.0	0.085	-21.396	-30.0	0.071	-22.930	10.0	0.440	-7.131	-20.915	0.000	-42.971
-69.0	0.089	-21.048	-29.0	0.104	-19.690	11.0	0.352	-9.074	-20.915	0.000	-44.971
-68.0	0.091	-20.785	-28.0	0.135	-17.413	12.0	0.265	-11.535	-20.915	0.000	-46.971
-67.0	0.093	-20.585	-27.0	0.163	-15.747	13.0	0.182	-14.822	-20.915	0.000	-48.971
-66.0	0.095	-20.473	-26.0	0.188	-14.515	14.0	0.103	-19.741	-20.915	0.000	-50.971
-65.0	0.095	-20.432	-25.0	0.208	-13.631	15.0	0.031	-30.241	-20.915	0.000	-52.971
-64.0	0.094	-20.501	-24.0	0.222	-13.056	16.0	0.034	-29.464	-20.915	0.000	-54.971
-63.0	0.092	-20.684	-23.0	0.230	-12.771	17.0	0.090	-20.930	-20.915	0.000	-56.971
-62.0	0.089	-20.989	-22.0	0.229	-12.788	18.0	0.137	-17.277	-20.915	0.000	-58.971
-61.0	0.085	-21.427	-21.0	0.220	-13.140	19.0	0.174	-15.169	-20.915	0.000	-60.971
-60.0	0.079	-22.054	-20.0	0.202	-13.888	20.0	0.202	-13.888	-20.915	0.000	-62.971
-59.0	0.072	-22.912	-19.0	0.174	-15.169	21.0	0.220	-13.140	-20.915	0.000	-64.971
-58.0	0.063	-24.051	-18.0	0.137	-17.268	22.0	0.229	-12.788	-20.915	0.000	-66.971
-57.0	0.052	-25.609	-17.0	0.090	-20.915	23.0	0.230	-12.771	-20.915	0.000	-68.971
-56.0	0.041	-27.796	-16.0	0.034	-29.425	24.0	0.222	-13.056	-20.915	0.000	-70.971
-55.0	0.028	-31.142	-15.0	0.031	-30.241	25.0	0.208	-13.631	-20.915	0.000	-72.971
-54.0	0.013	-37.403	-14.0	0.103	-19.753	26.0	0.188	-15.515	-20.915	0.000	-74.971
-53.0	0.002	-55.563	-13.0	0.182	-14.822	27.0	0.163	-17.413	-20.915	0.000	-76.971
-52.0	0.018	-35.102	-12.0	0.265	-11.540	28.0	0.135	-20.915	-20.915	0.000	-78.971
-51.0	0.034	-29.309	-11.0	0.352	-9.077	29.0	0.104	-25.838	-20.915	0.000	-80.971

File: FML 5-bay elevation tabulation

revision:

Date: 9/12/2011

Adjacent Channel Study **For Station NEW, Facility_id: 148870**

Co-channel through third adjacent:

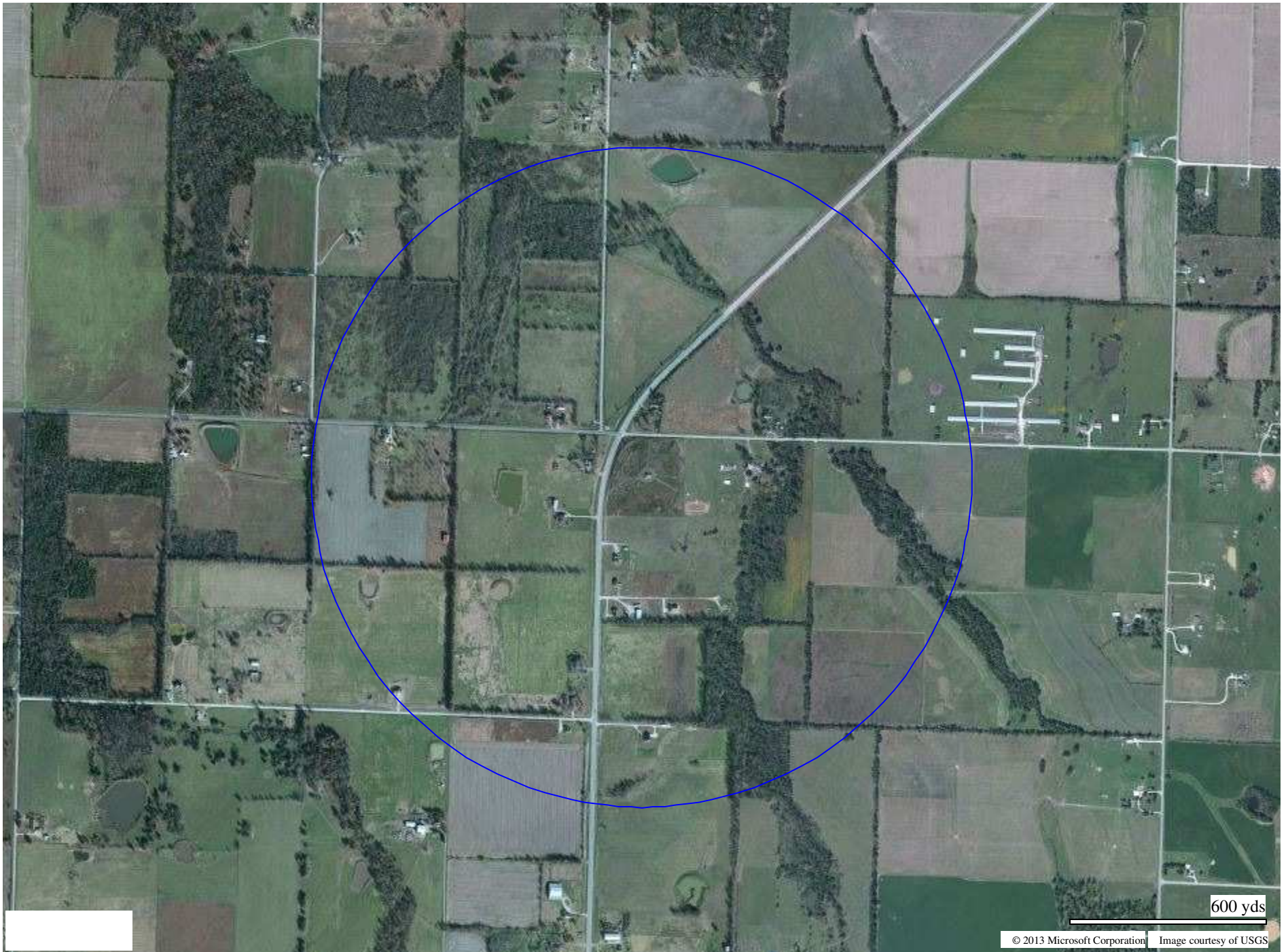
Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Channel	Adj	Dist	Overlap
277005	33688	BLH	19981112KO	KBTN-FM	AMERICAN MEDIA INVESTMENTS INC.	C3	NEOSHO	MO	LIC	16.5	454	259	2	37.3	3.8638
292721	33688	Null	Null	KBTN-FM	AMERICAN MEDIA INVESTMENTS INC.	C3	NEOSHO	MO	USE	0	0	259	2	37.3	3.8638
628779	138433	BNPFT	20030317KPU	NEW	COMMUNITY BROADCASTING, INC.	D	JOPLIN	MO	APP	0.17	397	263	2	19.6	0
294790	88724	Null	Null	971010ME	GALEN O'GILBERT	C3	DEERFIELD	MO	USE	0	0	264	3	53.5	0
1508940	190419	BNPH	20120517ABE	NEW	PARKER, PATRICK	C3	DEERFIELD	MO	CP	17.7	381.5	264	3	54.8	0
174509	3258	BLH	19920615KB	KSWF	CLEAR CHANNEL BROADCASTING LICENSE	C2	AURORA	MO	LIC	33	565	263	2	89.1	0
1066683	0	RM	11319	Null		A	GRAVETTE	AR	RSV	0	0	262	1	90.2	0
288670	3258	Null	Null	KSWF	CLEAR CHANNEL BROADCASTING LICENSE	C2	AURORA	MO	USE	0	0	263	2	90.2	0
1163675	33072	BLH	20061208AAS	KURM-FM	KERM, INC.	A	GRAVETTE	AR	LIC	1.75	526	262	1	90.2	0
289554	60709	Null	Null	KADI-FM	VISION COMMUNICATIONS, INCORPORATED	A	REPUBLIC	MO	USE	0	0	258	3	93.6	0
149842	60709	BLH	19900626KB	KADI-FM	VISION COMMUNICATIONS, INCORPORATED	A	REPUBLIC	MO	LIC	6	469	258	3	98.7	0
1256283	3258	BXLH	20080717ANH	KSWF	CLEAR CHANNEL BROADCASTING LICENSE	C2	AURORA	MO	LIC	1	443	263	2	110.5	0
555264	41636	BLH	20010309AAD	KTFR	KXOJ, INC.	A	CHELSEA	OK	LIC	6	327	264	3	117	0
401524	69666	RM	9687	KCVJ	LAKE AREA EDUCATIONAL BROADCASTING	A	OSCEOLA	MO	USE	0	0	262	1	121	0
993081	69666	BLED	20040512AEE	KCVJ	LAKE AREA EDUCATIONAL BROADCASTING	A	OSCEOLA	MO	LIC	6	342	262	1	123.6	0
278744	33654	BLH	19981214KA	KBFL-FM	MEYER-BALDRIDGE, INC.	C3	BUFFALO	MO	LIC	3.1	502	260	1	127.7	0
298750	34328	Null	Null	KOMC-FM	KOMC-KRZK, LLC	C2	KIMBERLING CIT	MO	USE	0	0	261	0	129.6	0
284970	34328	BLH	19990510KC	KOMC-FM	KOMC-KRZK, LLC	C2	KIMBERLING CIT	MO	LIC	36	508	261	0	131.1	0

Intermediate Frequencies (53 and 54 channels difference):

Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Channel	Adj	Dist	Clr
1501941	175649	BPED	20120529ADC	KCKJ	LAKE AREA EDUCATIONAL BROADCASTING FOUNE	C2	SARCOXIE	MO	CP	50	470	208	53	51.5	36.5
1323562	175649	BLED	20090803AFD	KCKJ	LAKE AREA EDUCATIONAL BROADCASTING FOUNE	C2	SARCOXIE	MO	LIC	34	470	208	53	54.8	39.8
1245098	92264	BLFT	20080505AAN	K208EK	CALVARY CHAPEL OF TWIN FALLS, INC.	D	PARSONS	KS	LIC	0.19	369	208	53	66.4	56.4

7158 IV SW
(NECK CITY)





600 yds



Google earth

miles
km

