

R. M. SMITH ASSOCIATES

BROADCAST TECHNICAL CONSULTANTS
P.O. BOX 345 – JENSEN BEACH, FL 34958
Tel: (772)-335-0688 Fax: (772)-672-3448
E-MAIL bob@rmsmith.com

MRR LICENSE LLC APPLICATION FOR FILL-IN TRANSLATOR FOR WCIL(AM) CARBONDALE, IL

EXHIBIT 13 CONTOUR OVERLAP

A search of the CDBS revealed one co-channel FM translator, one co-channel LPFM and one third-adjacent channel FM station that warrant detailed study.

The co-channel translator is W300BD, 300D, Mcleansboro, IL (Facility ID 150130, F.C.C. File No. BLFT-20140630AGA).

The co-channel LPFM station is KHEZ-LP, 300L100, Cape Girardeau, MO (Facility ID 132259, F.C.C. File No. BLL-20071213AAU).

The third-adjacent FM station is WDDD-FM, 297B, Johnston City, IL (Facility ID 123, F.C.C. File No. BLH-20050503ABU).

The attached Figure 1 shows the protected F(50,50) contour from each of the above listed facilities and the interference F(50,10) contour from W300BD. Also shown are the protected and interference contours from the proposed translator.

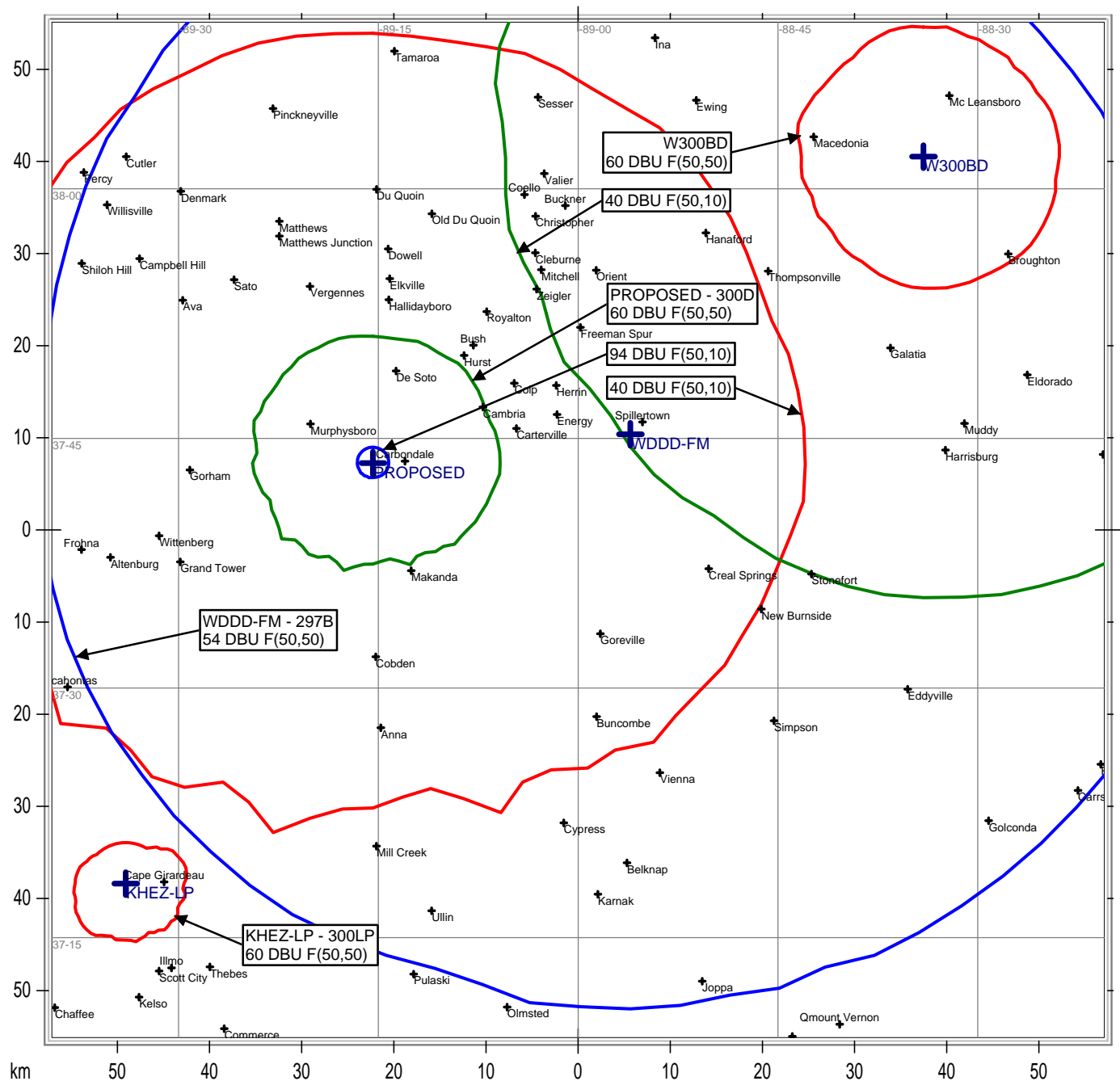
As Figure 1 demonstrates, the proposed 40 dBu F(50,10) contour does not overlap the W300BD 60 dBu F(50,50) contour and the W300BD 40 dBu F(50,10) contour does not overlap the Proposed 60 dBu F(50,50) contour.

Figure 1 also shows that the proposed 54 dBu F(50,10) contour does not overlap the KHEZ-LP 60 dBu F(50,50) contour. No prohibited contour overlap occurs with co-channel facilities.

Figure 1 also shows that the proposed site is within the 54 dBu F(50,50) contour of third-adjacent channel WDDD-FM and thus creates overlap of the WDDD-FM 54 dBu contour by the proposed 94 dBu F(50,10) contour. However, no actual interference will occur to WDDD-FM. Figure 2 shows that the WDDD-FM 72 dBu F(50,50) contour surrounds the proposed site. Therefore, the +40 dB interference level is the 112 dBu F(50,10) contour. Table 1 is a tabulation of the ground level signal strength from the proposed translator operation at various distances from the translator tower. As shown in the right-most column of the table, the

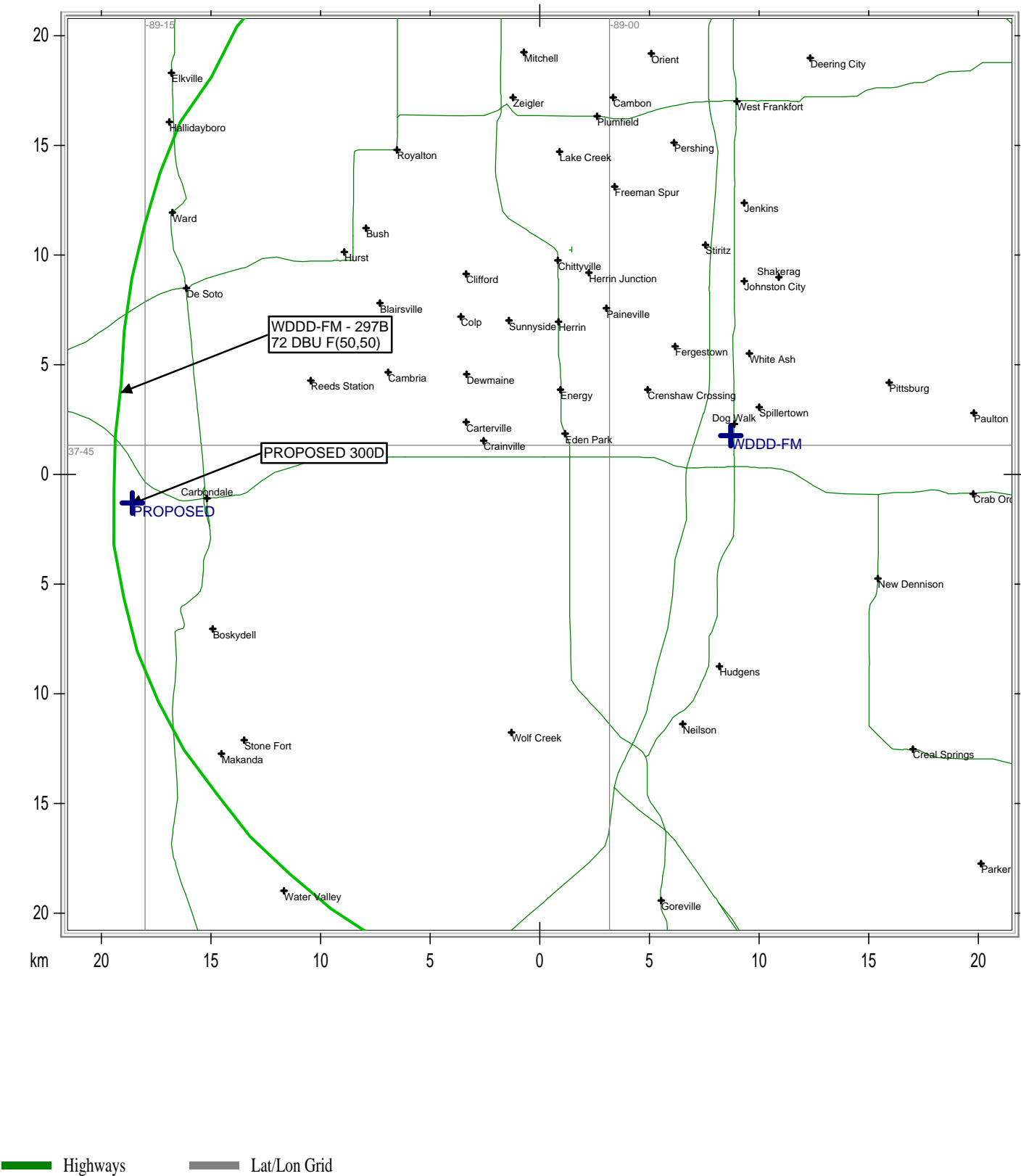
maximum signal level from the translator will be 109.38 dBu at 70.8 meters from the base of the tower. Since the proposed signal level will not exceed the WDDD-FM signal level by 40 dB at any location, the proposed translator will not cause interference to WDDD-FM.

PROPOSED TRANSLATOR FOR WCIL(AM)



Lat/Lon Grid

PROPOSED TRANSLATOR FOR WCIL(AM)



MRR LICENSE LLC - PROPOSED TRANSLATOR FOR WCIL(AM)

EXHIBIT 13

TABLE 1

Antenna Make	Nicom	
Antenna Model	BKG77/2	0.85 Wavelength spacing between bays
ERP (W)	250	
Antenna C/R AGL (m)	109	

<u>Downward Angle (Deg)</u>	<u>Horizontal Distance from Antenna (m)</u>	<u>Ground Distance from C/R (m)</u>	<u>Relative Field</u>	<u>ERP (dBk)</u>	<u>Free Space Field dBu</u>
90.0	0.0	109.0	0.000	0.00	0.00
89.0	1.9	109.0	0.117	-24.66	101.51
88.0	3.8	109.1	0.119	-24.51	101.66
87.0	5.7	109.1	0.120	-24.44	101.72
86.0	7.6	109.3	0.121	-24.36	101.79
85.0	9.5	109.4	0.122	-24.29	101.84
84.0	11.5	109.6	0.128	-23.88	102.25
83.0	13.4	109.8	0.134	-23.48	102.63
82.0	15.3	110.1	0.140	-23.10	102.99
81.0	17.3	110.4	0.145	-22.79	103.27
80.0	19.2	110.7	0.151	-22.44	103.60
79.0	21.2	111.0	0.160	-21.94	104.07
78.0	23.2	111.4	0.170	-21.41	104.57
77.0	25.2	111.9	0.179	-20.96	104.98
76.0	27.2	112.3	0.188	-20.54	105.37
75.0	29.2	112.8	0.197	-20.13	105.74
74.0	31.3	113.4	0.207	-19.70	106.13
73.0	33.3	114.0	0.217	-19.29	106.49
72.0	35.4	114.6	0.227	-18.90	106.84
71.0	37.5	115.3	0.237	-18.53	107.16
70.0	39.7	116.0	0.246	-18.20	107.43
69.0	41.8	116.8	0.257	-17.82	107.75
68.0	44.0	117.6	0.267	-17.49	108.02
67.0	46.3	118.4	0.277	-17.17	108.28
66.0	48.5	119.3	0.286	-16.89	108.49
65.0	50.8	120.3	0.295	-16.62	108.69
64.0	53.2	121.3	0.304	-16.36	108.88
63.0	55.5	122.3	0.311	-16.17	109.00
62.0	58.0	123.5	0.319	-15.94	109.15
61.0	60.4	124.6	0.325	-15.78	109.22
60.0	62.9	125.9	0.331	-15.62	109.30
59.0	65.5	127.2	0.336	-15.49	109.34
58.0	68.1	128.5	0.341	-15.37	109.37
57.0	70.8	130.0	0.345	-15.26	109.38
56.0	73.5	131.5	0.347	-15.21	109.33
55.0	76.3	133.1	0.349	-15.16	109.27
54.0	79.2	134.7	0.349	-15.16	109.17
53.0	82.1	136.5	0.347	-15.21	109.00
52.0	85.2	138.3	0.345	-15.26	108.84
51.0	88.3	140.3	0.341	-15.37	108.62
50.0	91.5	142.3	0.336	-15.49	108.36

MRR LICENSE LLC - PROPOSED TRANSLATOR FOR WCIL(AM)

EXHIBIT 13

TABLE 1 - Continued

<u>Downward Angle (Deg)</u>	<u>Horizontal Distance from Antenna (m)</u>	<u>Ground Distance from C/R (m)</u>	<u>Relative Field</u>	<u>ERP (dBk)</u>	<u>Free Space Field dBu</u>
49.0	94.8	144.4	0.329	-15.68	108.05
48.0	98.1	146.7	0.321	-15.89	107.70
47.0	101.6	149.0	0.312	-16.14	107.32
46.0	105.3	151.5	0.301	-16.45	106.86
45.0	109.0	154.1	0.288	-16.83	106.33
44.0	112.9	156.9	0.273	-17.30	105.71
43.0	116.9	159.8	0.257	-17.82	105.03
42.0	121.1	162.9	0.239	-18.45	104.23
41.0	125.4	166.1	0.219	-19.21	103.30
40.0	129.9	169.6	0.198	-20.09	102.25
39.0	134.6	173.2	0.174	-21.21	100.94
38.0	139.5	177.0	0.149	-22.56	99.40
37.0	144.6	181.1	0.121	-24.36	97.40
36.0	150.0	185.4	0.093	-26.65	94.90
35.0	155.7	190.0	0.062	-30.17	91.17
34.0	161.6	194.9	0.030	-36.48	84.64
33.0	167.8	200.1	0.003	-56.48	64.42
32.0	174.4	205.7	0.038	-34.42	86.23
31.0	181.4	211.6	0.075	-28.52	91.89
30.0	188.8	218.0	0.112	-25.04	95.11
29.0	196.6	224.8	0.150	-22.50	97.38
28.0	205.0	232.2	0.189	-20.49	99.11
27.0	213.9	240.1	0.229	-18.82	100.49
26.0	223.5	248.6	0.269	-17.43	101.58
25.0	233.8	257.9	0.310	-16.19	102.50
24.0	244.8	268.0	0.352	-15.09	103.27
23.0	256.8	279.0	0.393	-14.13	103.88
22.0	269.8	291.0	0.435	-13.25	104.39
21.0	284.0	304.2	0.476	-12.47	104.79
20.0	299.5	318.7	0.518	-11.73	105.12
19.0	316.6	334.8	0.558	-11.09	105.34
18.0	335.5	352.7	0.598	-10.49	105.48
17.0	356.5	372.8	0.636	-9.95	105.54
16.0	380.1	395.4	0.674	-9.45	105.53
15.0	406.8	421.1	0.711	-8.98	105.45
14.0	437.2	450.6	0.746	-8.57	105.28
13.0	472.1	484.5	0.780	-8.18	105.03
12.0	512.8	524.3	0.812	-7.83	104.70
11.0	560.8	571.3	0.842	-7.51	104.27
10.0	618.2	627.7	0.871	-7.22	103.74

MRR LICENSE LLC - PROPOSED TRANSLATOR FOR WCIL(AM)

EXHIBIT 13

TABLE 1 - Continued

<u>Downward Angle (Deg)</u>	<u>Horizontal Distance from Antenna (m)</u>	<u>Ground Distance from C/R (m)</u>	<u>Relative Field</u>	<u>ERP (dBk)</u>	<u>Free Space Field dBu</u>
9.0	688.2	696.8	0.894	-6.99	103.06
8.0	775.6	783.2	0.916	-6.78	102.26
7.0	887.7	894.4	0.935	-6.60	101.28
6.0	1037.1	1042.8	0.952	-6.45	100.11
5.0	1245.9	1250.6	0.967	-6.31	98.67
4.0	1558.8	1562.6	0.979	-6.20	96.84
3.0	2079.8	2082.7	0.988	-6.13	94.42
2.0	3121.4	3123.3	0.994	-6.07	90.95
1.0	6244.6	6245.6	0.998	-6.04	84.97

Horizontal Distance = $(\tan(90 - \text{Downward Angle}) * \text{C/R AGL})$
 Ground Distance = $\text{SQRT}((\text{C/R AGL})^2 + (\text{Horizontal Distance})^2)$
 Relative Field= From manufacturer's datasheet
 Free Space Field = $106.92 + \text{dBk} - 20 * \log(\text{Ground Distance in km})$