DELAWDER COMMUNICATIONS, INC.
P.O. Box 1095
Ashburn, Virginia 20146-1095
(703) 299-9222

ENGINEERING REPORT

K260CC, San Antonio, TX, Channel 260D Site Move Minor Change Application

ENGINEERING STATEMENT

This is a site move change amendment to K260CC. Figure EE-A demonstrates contour overlap between to 60 dBu F50,50 contours of the authorized and proposed facilities.

PROTECTION TO KISS-FM AND KCYY(FM)

All contour non-overlap protection requirements are met with the exception of San Antonio, TX stations KISS-FM (258C0) and KCYY(FM) (262C0), discussed below.

KISS-FM (51.3 kilometers at 159 degrees True) and KCYY (33.4 kilometers at 231 degrees True) are second adjacent-channel to the proposed channel 260D facility. The 60 dBu F50,50 service contour extends well beyond the proposed 260D transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to KISS-FM or KCYY.

Note that a rule waiver of Section 74.1204 for this second/third adjacent-channel protection using the well-established *Living Way Ministries* Methodology is respectfully requested if such a rule waiver is deemed necessary for protection to any station.

The F50,50 signal strength from KISS-FM at the proposed 260D transmitter site is at least 73 dBu (the “desired” signal for KISS-FM). The F50,50 signal strength from KCYY at the proposed 260D transmitter site is at least 79 dBu (the other “desired” signal). The second/third adjacent-channel protection of Section 74.1204 is an undesired-to-desired (“U/D”) dB signal strength ratio of 40:1. Therefore, predicted interference to KISS-FM and KCYY from the proposed 260D facility is a signal of greater than or equal to 113 dBu.

Figure EE1 is the vertical plane relative field pattern for the proposed two skewed Scala CL-FM(V) antenna configuration. By adjusting for the vertical plane downward relative field values of the proposed antenna, it is herein demonstrated that the 113 dBu interfering signal (using a free space field determination) does not exist at any point at ground level. (Actually, the study is made to 2 meters above ground level to account for a person’s height.)

Attached as Figure EE2 is a tabulation of various points (at 2 meters above ground level) from the proposed translator tower base. (Column B is the different distances from the tower base to each studied point.) The actual distance from the antenna to each point is listed in Column C, the hypotenuse of the vertical height (Column A) and the horizontal distance (Column B). Also, the vertical distance from the antenna bottom to the calculated interference signal for each studied point is provided in Column K. Because the calculated distance to the free space interfering signal (Column J) is less than the hypotenuse distance (Column C) and the interfering signal vertical distance (Column K) is less than the vertical distance (Column A) for each studied point, the interfering signal does not reach any studied point. (In other words, the interfering signal does not make it to 2 meters any point.) Therefore, pursuant to Section 74.1204(d) of the FCC Rules, KISS-FM and KCYY are adequately protected by the proposed facility.

The above study results of Figure EE2 assume uniform terrain elevation near the proposed tower. Because the clearance shown (Column A minus Column K values) is at least 30 meters for all rows, this assumption is acceptable for showing non-interference—no actual elevation within 152 meters of the proposed translator tower is at an elevation that is more than 15 meters above that of the tower base elevation.

FIGURE EE-A: PROPOSED CONTOUR OVERLAP (WITH CP) MAP

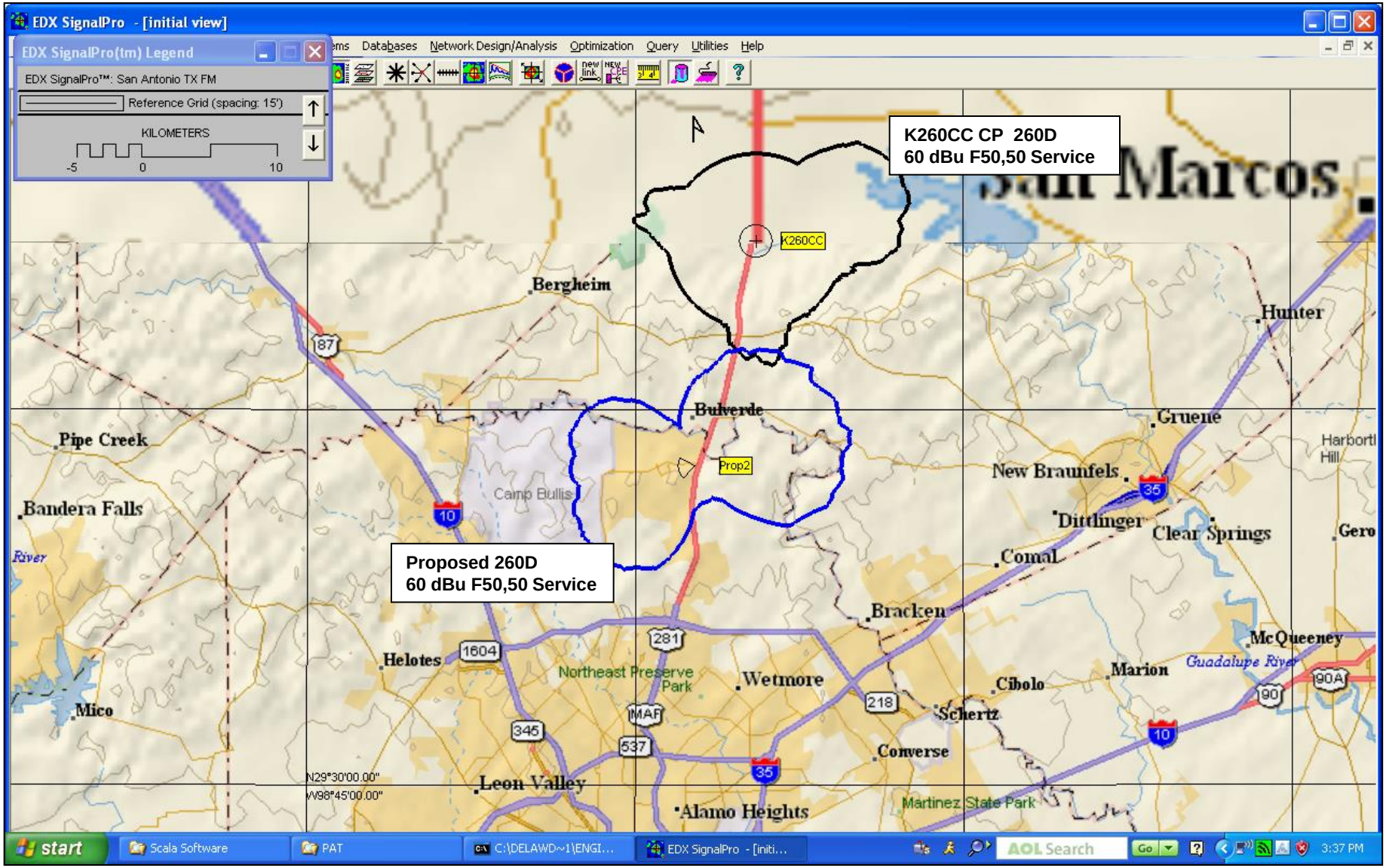

FIGURE EE1 (Page 1 of 2)

Antenna: CL-FM 03-27-2015

Frequency: 100 MHz

Vertical Pattern for V-Pol Install

Azimuth	Field	Rel.dB	dBd	Pwr Gain
0	1.000	0.0	7.0	5.012
1	0.996	-0.0	7.0	5.012
2	0.992	-0.1	6.9	4.898
3	0.988	-0.1	6.9	4.898
4	0.984	-0.1	6.9	4.898
5	0.980	-0.2	6.8	4.786
6	0.974	-0.2	6.8	4.786
7	0.968	-0.3	6.7	4.677
8	0.962	-0.3	6.7	4.677
9	0.956	-0.4	6.6	4.571
10	0.950	-0.4	6.6	4.571
11	0.939	-0.5	6.5	4.467
12	0.928	-0.6	6.4	4.365
13	0.917	-0.8	6.2	4.169
14	0.906	-0.9	6.1	4.074
15	0.895	-1.0	6.0	3.981
16	0.880	-1.1	5.9	3.890
17	0.865	-1.3	5.7	3.715
18	0.850	-1.4	5.6	3.631
19	0.835	-1.6	5.4	3.467
20	0.820	-1.7	5.3	3.388
21	0.803	-1.9	5.1	3.236
22	0.786	-2.1	4.9	3.090
23	0.769	-2.3	4.7	2.951
24	0.752	-2.5	4.5	2.818
25	0.735	-2.7	4.3	2.692
26	0.717	-2.9	4.1	2.570
27	0.699	-3.1	3.9	2.455
28	0.681	-3.3	3.7	2.344
29	0.663	-3.6	3.4	2.188
30	0.645	-3.8	3.2	2.089
31	0.628	-4.0	3.0	1.995
32	0.612	-4.3	2.7	1.862
33	0.595	-4.5	2.5	1.778
34	0.579	-4.7	2.3	1.698
35	0.563	-5.0	2.0	1.585
36	0.544	-5.3	1.7	1.479
37	0.525	-5.6	1.4	1.380
38	0.507	-5.9	1.1	1.288
39	0.488	-6.2	0.8	1.202
40	0.470	-6.6	0.4	1.096
41	0.448	-7.0	0.0	1.000
42	0.426	-7.4	-0.4	0.912

FIGURE EE1 (Page 2 of 2)

Azimuth	Field	Rel.dB	dBd	Pwr Gain
43	0.404	-7.9	-0.9	0.813
44	0.382	-8.4	-1.4	0.724
45	0.360	-8.9	-1.9	0.646
46	0.338	-9.4	-2.4	0.575
47	0.316	-10.0	-3.0	0.501
48	0.294	-10.6	-3.6	0.437
49	0.272	-11.3	-4.3	0.372
50	0.250	-12.0	-5.0	0.316
51	0.231	-12.7	-5.7	0.269
52	0.212	-13.5	-6.5	0.224
53	0.193	-14.3	-7.3	0.186
54	0.174	-15.2	-8.2	0.151
55	0.155	-16.2	-9.2	0.120
56	0.141	-17.0	-10.0	0.100
57	0.127	-17.9	-10.9	0.081
58	0.113	-18.9	-11.9	0.065
59	0.099	-20.1	-13.1	0.049
60	0.085	-21.4	-14.4	0.036
61	0.077	-22.3	-15.3	0.030
62	0.069	-23.2	-16.2	0.024
63	0.061	-24.3	-17.3	0.019
64	0.053	-25.5	-18.5	0.014
65	0.045	-26.9	-19.9	0.010
66	0.040	-28.0	-21.0	0.008
67	0.035	-29.1	-22.1	0.006
68	0.030	-30.5	-23.5	0.004
69	0.025	-32.0	-25.0	0.003
70	0.020	-34.0	-27.0	0.002
71	0.018	-34.9	-27.9	0.002
72	0.016	-35.9	-28.9	0.001
73	0.014	-37.1	-30.1	0.001
74	0.012	-38.4	-31.4	0.001
75	0.010	-40.0	-33.0	0.001
76	0.010	-40.0	-33.0	0.001
77	0.010	-40.0	-33.0	0.001
78	0.010	-40.0	-33.0	0.001
79	0.010	-40.0	-33.0	0.001
80	0.010	-40.0	-33.0	0.001
81	0.010	-40.0	-33.0	0.001
82	0.010	-40.0	-33.0	0.001
83	0.010	-40.0	-33.0	0.001
84	0.010	-40.0	-33.0	0.001
85	0.010	-40.0	-33.0	0.001
86	0.010	-40.0	-33.0	0.001
87	0.010	-40.0	-33.0	0.001
88	0.010	-40.0	-33.0	0.001
89	0.010	-40.0	-33.0	0.001
90	0.010	-40.0	-33.0	0.001

FIGURE EE2
FREE SPACE FIELD STRENGTH AT A DISTANCE STUDY RESULTS

PROJECT: SAN ANTONIO, TX, 260D

27-Mar-15

Pt	Column A Vert Dist From Ant Bottom (meters)	Column B Horiz Dist From Tower Base (meters)	Column C Hypot-enuse Dist fr Ant Bottom (meters)	Column D Down-ward Angle fr Ant Bottom (degrees)	Column E Max ERP (watts)	Column F Max ERP (dBmw)	Column G Pattern Relative Field at Down-ward Angle	Column H Free Space Inter-ferring Signal (dBu)	Column I Adjusted ERP in Down-ward Angle (dBmW)	Column J Interf Distance along Hypot-enuse (meters)	Column K **Vert Interf Distance below Antenna (meters)**
1	83	0.1	**83.0**	89.9	92	49.64	0.010	113.0	9.64	1.5	1.5
2	83	10	**83.6**	83.1	92	49.64	0.010	113.0	9.64	1.5	1.5
3	83	20	**85.4**	76.5	92	49.64	0.010	113.0	9.64	1.5	1.5
4	83	30	**88.3**	70.1	92	49.64	0.020	113.0	15.66	3.0	2.8
5	83	40	**92.1**	64.3	92	49.64	0.053	113.0	24.12	8.0	7.2
6	83	50	**96.9**	58.9	92	49.64	0.113	113.0	30.70	17.1	14.6
7	83	60	**102.4**	54.1	92	49.64	0.174	113.0	34.45	26.3	21.3
8	83	70	**108.6**	49.9	92	49.64	0.272	113.0	38.33	41.1	31.4
9	83	80	**115.3**	46.1	92	49.64	0.338	113.0	40.22	51.1	36.8
10	83	90	**122.4**	42.7	92	49.64	0.426	113.0	42.23	64.4	43.7
11	83	100	**130.0**	39.7	92	49.64	0.488	113.0	43.41	73.8	47.1
12	83	120	**145.9**	34.7	92	49.64	0.579	113.0	44.89	87.5	49.8
13	83	140	**162.8**	30.7	92	49.64	0.645	113.0	45.83	97.5	49.7
14	83	152	**173.2**	28.6	92	49.64	0.681	113.0	46.30	102.9	49.3

NOTE: Study point at 2 meters above ground (or rooftop, see write-up) level.

RESULTS: COLUMN J DISTANCES ARE LESS THAN COLUMN C AND COLUMN K DISTANCES ARE LESS THAN COLUMN A DISTANCES IN ALL INSTANCES; THEREFORE, INTERFERRING SIGNAL DOES NOT EXIST AT ANY LOCATION (TWO METERS OR LESS ABOVE GROUND LEVEL)

DeLawder Communications, Inc. P.O. Box 1095, Ashburn, VA 20146-1095 703-299-9222