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ENGINEERING REPORT

K213CS, Fort Worth, TX, Minor Change, 213D

ENGINEERING STATEMENT

All required protections are met by contour non-overlap pursuant to Section 74.1204, with the exception of protection to Dallas stations KERA 211C0 and KCBI 215C. KERA and KCBI are protected, as discussed below.

PROTECTION TO KERA AND KCBI

KERA 211C0 and KCBI 215C are second adjacent-channel stations to the proposed channel 213D facility. The 60 dBu F50,50 service contour for both KERA and KCBI extends beyond the 213D transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to KERA or KCBI. 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 KERA at the proposed 213D transmitter site is greater than 77 dBu (the "desired" signal of KERA). The F50,50 signal strength from KCBI at the proposed 213D transmitter site is greater than 80 dBu (the "desired" signal of KCBI). 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 KERA and KCBI from the proposed 213D facility is a signal of greater than or equal to 117 dBu.

The centerline for the proposed 3-bay (halfwave-spaced) Nicom BKG-77 antenna system is located on top of an existing building rooftop at 175 meters above ground level. The centerline is 21 meters above the top floor of the building. (There is an unoccupied penthouse that extends approximately 15 meters above the rooftop and the proposed antenna will be placed on top of this penthouse.) The attached table (requested for use by the FCC for these studies) demonstrates that the 117 dBu interference signal is predicted to be at least 5.6 meters above the top floor of the building. (A vertical plane pattern tabulation is also attached.) Therefore, pursuant to Section 74.1204(d) of the FCC Rules, KERA and KCBI are adequately protected by the proposed facility.

74.1204(d) Showing

K213CS, Ft Worth, TX, 213D

ERP (kw)	0.055
Height of Antenna above Ground (m)	21
Translator's IX Contour	117
	Nicom BKG-77 3-bay (HW spaced)

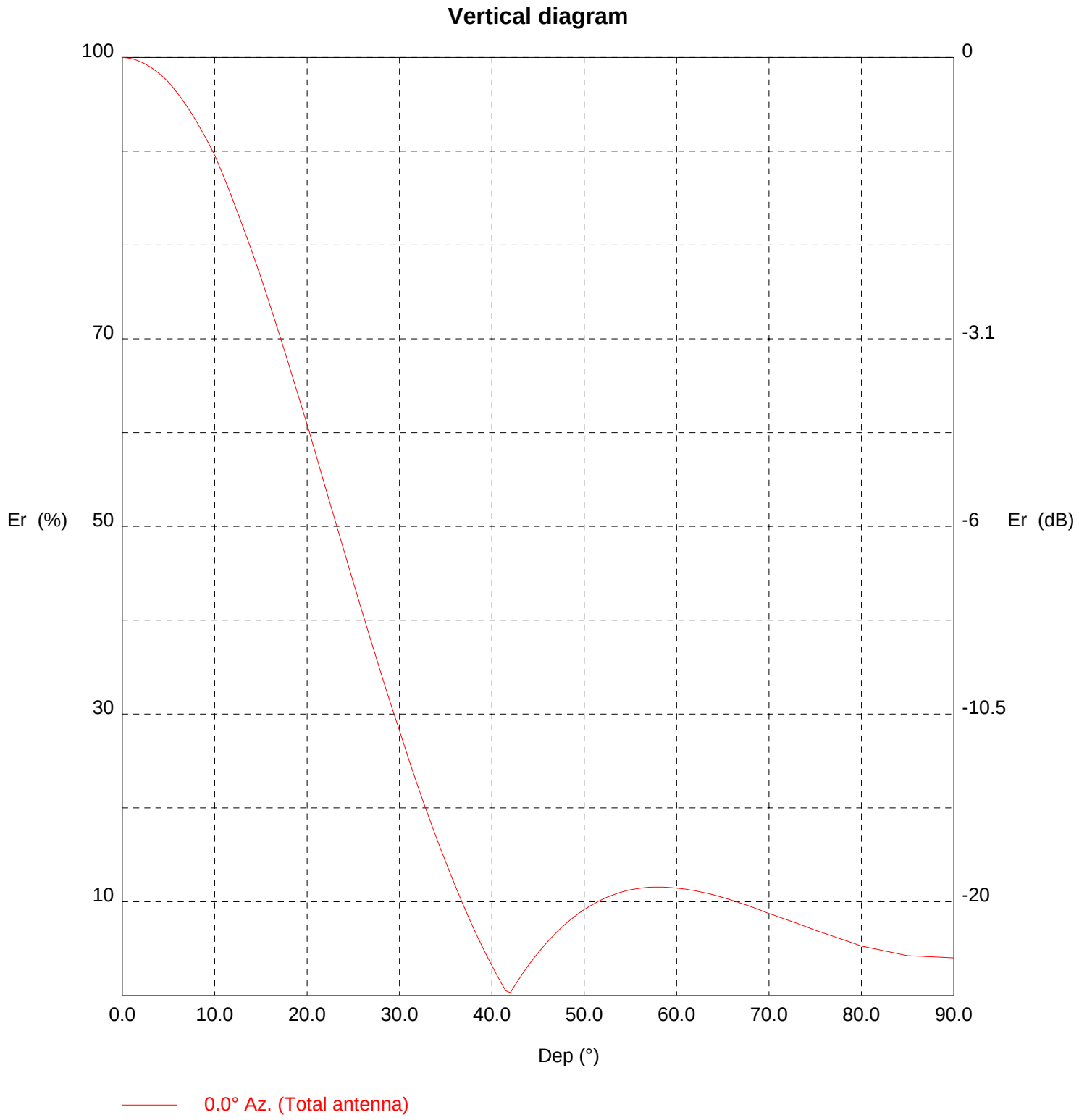
Depression Angle from Horizon	**Antenna Relative Field**	**ERP (kw) from the Antenna RF**	**Dist. To IX Contour (m)**	**Height IX Contour Above Ground (m)**
0	1	0.0550	73.4821	21.000
5	0.974	0.0522	71.5715	14.762
10	0.896	0.0442	65.8399	9.567
15	0.766	0.0323	56.2873	6.432
20	0.609	0.0204	44.7506	5.694
25	0.441	0.0107	32.4056	7.305
30	0.282	0.0044	20.7219	10.639
35	0.142	0.0011	10.4345	15.015
40	0.032	0.0001	2.3514	19.489
45	0.045	0.0001	3.3067	18.662
50	0.092	0.0005	6.7603	15.821
55	0.113	0.0007	8.3035	14.198
60	0.114	0.0007	8.3770	13.745
65	0.104	0.0006	7.6421	14.074
70	0.087	0.0004	6.3929	14.993
75	0.069	0.0003	5.0703	16.103
80	0.053	0.0002	3.8945	17.165
85	0.042	0.0001	3.0862	17.925
90	0.04	0.0001	2.9393	18.061

Note: Input the ERP, Height of the antenna above Ground, the Calculated Translator IX contour, and the specified Antenna Relative Field Pat

TX station: BKG77/3 GENERIC

Site name:

Frequency: 100.00 MHz



TX station: BKG77/3 GENERIC

Site name:

Frequency: 100.00 MHz

Vertical diagram at an azimuth of 0° degrees

Dep (°)	Er (%)	ERP (KW)	Dep (°)	Er (%)	ERP (KW)	Dep (°)	Er (%)	ERP (KW)
0.0	100.0	1.37	30.0	28.2	0.11	60.0	11.4	0.02
0.5	100.0	1.37	30.5	26.7	0.10	60.5	11.4	0.02
1.0	99.9	1.37	31.0	25.2	0.09	61.0	11.3	0.02
1.5	99.7	1.36	31.5	23.7	0.08	61.5	11.2	0.02
2.0	99.5	1.36	32.0	22.3	0.07	62.0	11.2	0.02
2.5	99.3	1.35	32.5	20.9	0.06	62.5	11.1	0.02
3.0	99.0	1.34	33.0	19.5	0.05	63.0	11.0	0.02
3.5	98.7	1.34	33.5	18.1	0.05	63.5	10.8	0.02
4.0	98.3	1.32	34.0	16.8	0.04	64.0	10.7	0.02
4.5	97.8	1.31	34.5	15.5	0.03	64.5	10.6	0.02
5.0	97.4	1.30	35.0	14.2	0.03	65.0	10.4	0.01
5.5	96.8	1.28	35.5	13.0	0.02	65.5	10.3	0.01
6.0	96.2	1.27	36.0	11.8	0.02	66.0	10.1	0.01
6.5	95.5	1.25	36.5	10.6	0.02	66.5	10.0	0.01
7.0	94.8	1.23	37.0	9.4	0.01	67.0	9.8	0.01
7.5	94.0	1.21	37.5	8.3	0.01	67.5	9.7	0.01
8.0	93.2	1.19	38.0	7.2	0.01	68.0	9.5	0.01
8.5	92.4	1.17	38.5	6.1	0.01	68.5	9.3	0.01
9.0	91.5	1.15	39.0	5.1	0.00	69.0	9.1	0.01
9.5	90.6	1.12	39.5	4.1	0.00	69.5	8.9	0.01
10.0	89.6	1.10	40.0	3.2	0.00	70.0	8.7	0.01
10.5	88.4	1.07	40.5	2.3	0.00	70.5	8.6	0.01
11.0	87.2	1.04	41.0	1.4	0.00	71.0	8.4	0.01
11.5	86.0	1.01	41.5	0.5	0.00	71.5	8.2	0.01
12.0	84.7	0.98	42.0	0.3	0.00	72.0	8.1	0.01
12.5	83.4	0.95	42.5	1.1	0.00	72.5	7.9	0.01
13.0	82.1	0.92	43.0	1.8	0.00	73.0	7.7	0.01
13.5	80.8	0.89	43.5	2.6	0.00	73.5	7.5	0.01
14.0	79.4	0.86	44.0	3.3	0.00	74.0	7.3	0.01
14.5	78.0	0.83	44.5	3.9	0.00	74.5	7.1	0.01
15.0	76.6	0.80	45.0	4.5	0.00	75.0	6.9	0.01
15.5	75.1	0.77	45.5	5.1	0.00	75.5	6.8	0.01
16.0	73.5	0.74	46.0	5.7	0.00	76.0	6.6	0.01
16.5	72.0	0.71	46.5	6.2	0.01	76.5	6.5	0.01
17.0	70.4	0.68	47.0	6.7	0.01	77.0	6.3	0.01
17.5	68.9	0.65	47.5	7.2	0.01	77.5	6.1	0.01
18.0	67.3	0.62	48.0	7.7	0.01	78.0	6.0	0.00
18.5	65.7	0.59	48.5	8.1	0.01	78.5	5.8	0.00
19.0	64.1	0.56	49.0	8.5	0.01	79.0	5.6	0.00
19.5	62.5	0.54	49.5	8.8	0.01	79.5	5.4	0.00
20.0	60.9	0.51	50.0	9.2	0.01	80.0	5.3	0.00
20.5	59.2	0.48	50.5	9.5	0.01	80.5	5.2	0.00
21.0	57.5	0.45	51.0	9.8	0.01	81.0	5.1	0.00
21.5	55.8	0.43	51.5	10.0	0.01	81.5	5.0	0.00
22.0	54.1	0.40	52.0	10.3	0.01	82.0	4.9	0.00
22.5	52.4	0.38	52.5	10.5	0.02	82.5	4.8	0.00
23.0	50.7	0.35	53.0	10.7	0.02	83.0	4.7	0.00
23.5	49.1	0.33	53.5	10.9	0.02	83.5	4.6	0.00
24.0	47.4	0.31	54.0	11.0	0.02	84.0	4.4	0.00
24.5	45.7	0.29	54.5	11.2	0.02	84.5	4.3	0.00
25.0	44.1	0.27	55.0	11.3	0.02	85.0	4.2	0.00
25.5	42.4	0.25	55.5	11.4	0.02	85.5	4.2	0.00
26.0	40.8	0.23	56.0	11.4	0.02	86.0	4.2	0.00
26.5	39.2	0.21	56.5	11.5	0.02	86.5	4.2	0.00
27.0	37.5	0.19	57.0	11.5	0.02	87.0	4.1	0.00
27.5	35.9	0.18	57.5	11.6	0.02	87.5	4.1	0.00
28.0	34.4	0.16	58.0	11.6	0.02	88.0	4.1	0.00
28.5	32.8	0.15	58.5	11.6	0.02	88.5	4.1	0.00
29.0	31.3	0.13	59.0	11.5	0.02	89.0	4.1	0.00
29.5	29.7	0.12	59.5	11.5	0.02	89.5	4.0	0.00