

TECHNICAL STATEMENT – STA FOR KROR (FM) – CH 268C – HASTINGS, NE

The following narrative supports the application for Engineering STA for KROR (FM) Channel 268C, Hastings, NE.

KROR (FM) recently experienced substantial damage to their main FM transmitter. While engineers are diligently working to assess and make repairs, KROR is currently operating from the nearby tower site that was recently used in a previously-approved STA, while the tower was being modified.

FCC ASR for the proposed STA site is 1210415.

The applicant requests Special Temporary Authority for up to 180 days to operate KROR to an existing nearby tower that has an available antenna. KROR proposes operation of 2.0 KW ERP at 237 meters above ground level, utilizing a 1-bay ERI-Rototiller-style antenna.

The proposed site meets FCC requirements for auxiliary operation. The proposed 60 dBu contour is within the licensed 60 dBu KROR contour. (See attached map)

By remaining on the air but with reduced coverage, pursuant to applicable sections of 73.1615, the applicant believes it is serving the public interest, including, but not limited to, programming for public service announcements, weather bulletins, and civil emergency announcements.

Pursuant to 73.1030 (c)(1) and (c)(3)(iv) (Notification concerning interference to radio astronomy, research and receiving installations) the applicant assures compliance, as the proposed signal is 49.7 km distant, is less than the 25 kw ERP recommended limit for advanced coordination, and does not exceed 10 mv/m to the Grand Island, NE FCC monitoring station. Blanket contour of the proposed aux is 0.56 km.

The proposed facility was analyzed in terms of RF radiation, both individually and in total with other co-located FM facilities on the tower.

The following FM stations are located within 10 KM of the proposed facility:

CH 233 – KLIQ (FM) HASTINGS, NE – 97.7 KW ERP – 268 METERS AGL

CH 249 – KMTY (FM) GIBBON, NE – 50.0 KW ERP – 126.5 METERS AGL

CH 268 – KROR (FM) Hastings, NE – 100 KW ERP – 311 METERS AGL

CH 272 – KRNY (FM) KEARNEY, NE – 77.1 KW ERP – 310 METERS AGL

CH 290 – KQKY (FM) KEARNEY, NE – 97.6 KW ERP – 346 METERS AGL

Third order intermodulation with stations within 3 KM: None found

The following TV stations are within 10 KM of the proposed site:

KGIN CH 11 – GRANS ISLAND, NE – LIC 25.00 KW ERP – 3.5 KM DISTANT AT 119-T

KHGI-TV CH 18 – KEARNEY, NE – LIC 1000 KW ERP – 6.7 KM DISTANT AT 338-T

There are no AM stations or applications within 3 KM of the proposed site.

Point nearest is 1194.4 km at 216.9 Degrees-T to the Mexican border, and clears the required 320 KM separation;

Point nearest is 933.6 km at 359.7 Degrees-T to the Canadian border and clears the required 320 KM separation;

Clears Astronomy Observatory at Green Bank, WV.

RFR CALCULATIONS

Site Coordinates: 40-36-08 98-50-21

Ground Elevation: 657 MAMSL Modified OST Calculations using V-Soft RFHaz program

Contributing stations:

KQKY 105.9 MHz, 97.6 KW, 346 Meters AGL, 10-Bay Rototiller KQKY 1.63 uW at tower base; 0.16% in the controlled environment, 0.82% in the non-controlled environment. Worst-case: 2.84 uW at 84 Meters; 0.28% in the controlled environment, 1.4% in the non-controlled environment

KRNY 102.3 MHz, 77.1 KW, 331 Meters AGL, 10-Bay Rototiller KRNY 1.41 uW at tower base; 0.14% in the controlled environment, 0.71% in the non-controlled environment. Worst-case: 2.42 uW at 81 Meters; 0.24% in the controlled environment, 1.21% in the non-controlled environment

KLIQ 94.5 MHz, 97.7 KW, 289 Meters AGL, 10-Bay Rototiller KLIQ 2.34 uW at tower base; 0.23% in the controlled environment, 1.17% in the non-controlled environment. Worst-case: 4.02 uW at 70 Meters; 0.71% in the controlled environment, 2.01% in the non-controlled environment

KMTY 97.7 MHz, 50.0 KW, 126.5 Meters AGL, 6-Bay Rototiller KMTY 6.48 uW at tower base; 0.65% in the controlled environment, 3.24% in the non-controlled environment. Worst-case: 14.72 uW at 70 Meters; 1.47% in the controlled environment, 7.36% in the non-controlled environment

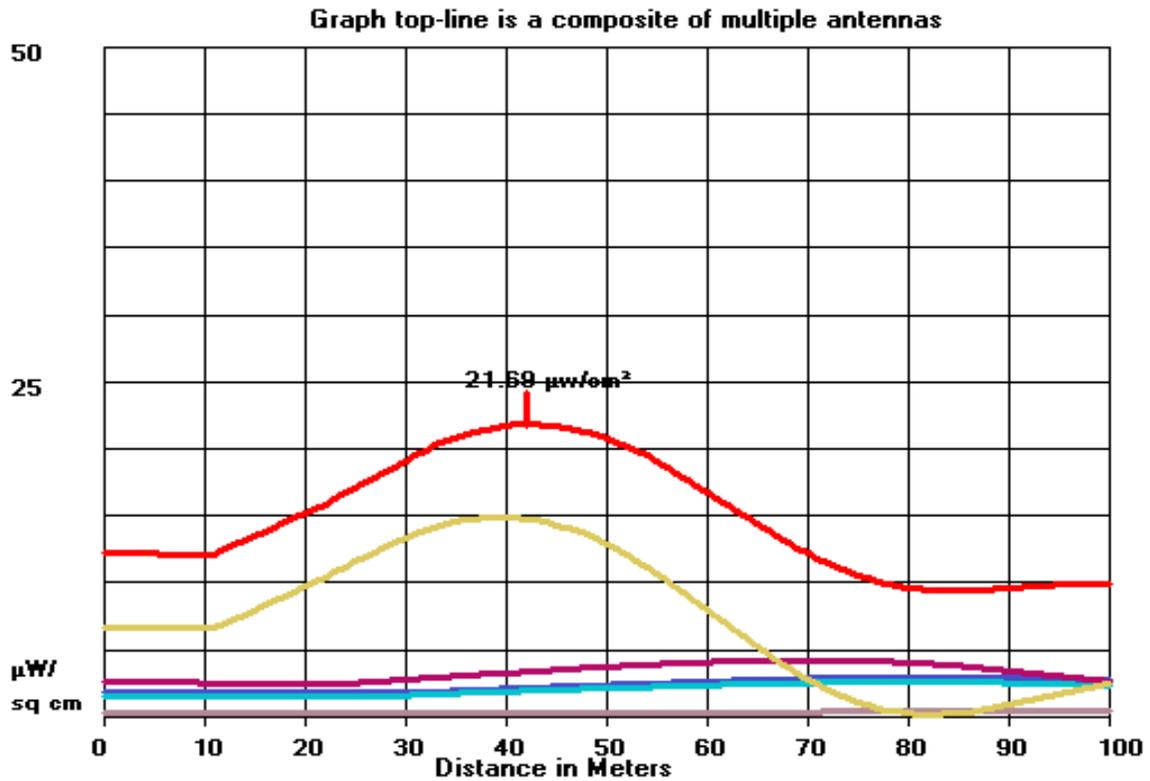
PROPOSED KROR AUX – 101.5 MHz, 2.0 KW, 237 Meters AGL, 1-Bay Rototiller 0.0726 uW at tower base; 0.072% in the controlled environment, 0.036% in the non-controlled environment. Worst-case: 0.54 uW at 235 Meters; 0.56% in the controlled environment, 2.77% in the non-controlled environment. Total percentage at tower base in Controlled Environment: 0.054% Total percentage at tower base in Non-Controlled Environment: 0.27%.

The following pages conclude in a tabular listing, 21.7 uW/cm-squared, or 10.84% of the recommended limit in the non-controlled environment, at 42.5 meters from the tower base, of the combined RF ground density for the five (5) combined stations.

The proposed additional RF contribution to the multiple-FM site is less than 5% and excluded from further processing.



George Nicholas, Director of Engineering
NRG Media, LLC
December 14, 2023



HORZ. DISTANCE FROM RADIATOR(S) vs POWER DENSITY (Microwatt/Square cm)
 Dist(Meters) Total (uW/cm2) Percent of Max(1000)

0	12.029	1.2
1	12.028	1.2
2	12.027	1.2
3	12.024	1.2
4	12.021	1.2
5	12.016	1.2
6	12.01	1.2
7	12.003	1.2
8	11.995	1.2
9	11.985	1.2
10	11.973	1.2
11	11.996	1.2
12	12.326	1.2
13	12.661	1.3
14	12.999	1.3
15	13.34	1.3
16	13.684	1.4
17	14.028	1.4
18	14.372	1.4
19	14.715	1.5
20	15.056	1.5
21	15.393	1.5
22	15.73	1.6
23	16.127	1.6
24	16.517	1.7
25	16.90	1.7
26	17.322	1.7

Dist (M)	Total (uW/cm2)	Percent of Max
27	17.739	1.8
28	18.142	1.8
29	18.536	1.9
30	18.934	1.9
31	19.341	1.9
32	19.729	2.0
33	20.092	2.0
34	20.409	2.0
35	20.686	2.1
36	20.933	2.1
37	21.147	2.1
38	21.329	2.1
39	21.474	2.1
40	21.583	2.2
41	21.655	2.2
42	21.688	2.2
43	21.682	2.2
44	21.637	2.2
45	21.551	2.2
46	21.446	2.1
47	21.308	2.1
48	21.13	2.1
49	20.912	2.1
50	20.657	2.1
51	20.368	2.0
52	20.051	2.0
53	19.702	2.0
54	19.322	1.9
55	18.916	1.9
56	18.485	1.8
57	18.033	1.8
58	17.564	1.8
59	17.109	1.7
60	16.641	1.7
61	16.164	1.6
62	15.685	1.6
63	15.202	1.5
64	14.72	1.5
65	14.242	1.4
66	13.772	1.4
67	13.314	1.3
68	12.871	1.3
69	12.446	1.2
70	12.042	1.2
71	11.66	1.2
72	11.305	1.1
73	10.98	1.1
74	10.682	1.1
75	10.412	1.0

Dist (M)	Total (uW/cm2)	Percent of Max
76	10.171	1.0
77	9.959	1.0
78	9.774	1.0
79	9.618	1.0
80	9.492	0.9
81	9.393	0.9
82	9.322	0.9
83	9.275	0.9
84	9.252	0.9
85	9.25	0.9
86	9.266	0.9
87	9.298	0.9
88	9.342	0.9
89	9.394	0.9
90	9.45	0.9
91	9.51	1.0
92	9.571	1.0
93	9.626	1.0
94	9.675	1.0
95	9.717	1.0
96	9.748	1.0
97	9.767	1.0
98	9.771	1.0
99	9.759	1.0
100	9.729	1.0

KROR
 BLH19940926KC
 Latitude: 40-39-28.05 N
 Longitude: 098-52-04.02 W
 ERP: 100.00 kW
 Channel: 268
 Frequency: 101.5 MHz
 AMSL Height: 940.0 m
 Elevation: 629.0 m
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: None

KROR AUX
 Latitude: 40-36-08 N
 Longitude: 098-50-21 W
 ERP: 2.00 kW
 Channel: 268
 Frequency: 101.5 MHz
 AMSL Height: 892.87 m
 Elevation: 655.87 m
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: None

