Environmental Protection

There are two main factors that need to be addressed in order to make sure that the environment around a proposed facility is protected.

1) **Significant effects to the environment.**

Family Stations' proposed facility will be constructed on an existing tower (tower ID 1062659), therefore it should have no adverse effect on the surrounding environment.

2) **Human exposure to excess levels of radiofrequency radiation.**

The proposed facility is to be built using a 1-bay circularly polarized antenna on the same site as the following:

Status	Call	Licensee/Permittee	Channel	City	FIN
LIC	KUAA-LP	UTAH ARTS ALLIANCE	260L	Salt Lake City, UT	195081

See Exhibit 24-A for antennas that were specified by each licensee/permittee.

Since the antenna system for the proposed KUFR has not been finalized, the "worst case" EPA type 1 antenna was used in calculations for this study. Also, since the proposed facility is to be mounted on a roof top, the study was performed using the rooftop as ground level.

As can be seen in Exhibit 24-A, the maximum theoretical RF value would be 141.94 $\mu W/cm^2$ at a distance of 5 meters from the tower, which is 70.97% of the 200 $\mu W/cm^2$ permitted for public (uncontrolled) exposure, and 7.09% of the 1000 $\mu W/cm^2$ permitted for worker (controlled) exposure.

Therefore, the proposed facility complies with the requirements of OET 65.

Family Stations will fully cooperate with other future site users to temporarily reduce power or cease broadcasting, as necessary, to protect workers and others having access to the site from excessive levels of RF Radiation.

Exhibit 24-A
RF Analysis: KUFR Salt Lake City, UT

	KUFR.P	KUAA-LP	
Site type:	Proposed	LPFM	
Channel:	219	260	
Class:	A	LP100	
ERP:	0.3 kw	0.1 kw	
Antenna:	*	Nicom BKG77	
	EPA Type 1	EPA Type 2	
	1 bay	1 bay	
COR AGL:	10 m	8 m	above rooftop
Polorization:	circular	circular	

*worst case type 1 antenna used for study

Distance From Tower (m)	KUFR.P Facility	KUAA-LP Facility	Total RF (uW/cm2)	Percent of 200uW/cm2
0	100.2303	7.3096	107.54	53.77
1	107.3890	8.7565	116.15	58.07
2	119.3155	12.5478	131.86	65.93
3	**120.4790**	17.0238	137.50	68.75
4	119.7232	21.5442	141.27	70.63
5	117.2537	24.6819	**141.94**	**70.97**
6	110.9369	26.6335	137.57	68.79
7	105.6054	27.4804	133.09	66.54
8	95.9465	**28.7115**	124.66	62.33
9	87.3617	28.5412	115.90	57.95
10	79.6847	27.6449	107.33	53.66
11	71.5574	26.2228	97.78	48.89
12	64.9238	24.6744	89.60	44.80
13	63.4637	23.0999	86.56	43.28
14	61.5884	21.5735	83.16	41.58
15	57.2968	20.0922	77.39	38.69
16	52.5912	18.7132	71.30	35.65
17	48.3689	17.4375	65.81	32.90
18	44.7835	16.2065	60.99	30.49
19	41.6302	15.0761	56.71	28.35
20	38.7681	14.0479	52.82	26.41
21	36.1670	13.1118	49.28	24.64
22	33.5393	12.2558	45.80	22.90
23	30.9864	11.3527	42.34	21.17
24	28.7008	10.5422	39.24	19.62
25	26.6484	9.8124	36.46	18.23
26	24.7998	9.1535	33.95	16.98
27	23.1301	8.5569	31.69	15.84
28	21.6218	8.0152	29.64	14.82
29	20.2554	7.5220	27.78	13.89
30	19.0113	7.0670	26.08	13.04
31	17.8755	6.6246	24.50	12.25
32	16.8362	6.2217	23.06	11.53
33	15.8830	5.8540	21.74	10.87
34	15.0069	5.5174	20.52	10.26
35	14.1999	5.2087	19.41	9.70
36	13.4551	4.9248	18.38	9.19
37	12.7664	4.6633	17.43	8.71
38	12.1661	4.4217	16.59	8.29
39	11.6229	4.1983	15.82	7.91
40	11.1144	3.9912	15.11	7.55
41	10.6380	3.7989	14.44	7.22
42	10.1909	3.6200	13.81	6.91
43	9.7708	3.4533	13.22	6.61
44	9.3758	3.2978	12.67	6.34
45	9.0038	3.1525	12.16	6.08

Distance From Tower (m)	KUFR.P Facility	KUAA-LP Facility	Total RF (uW/cm2)	Percent of 200uW/cm2
46	8.6532	3.0236	11.68	5.84
47	8.3223	2.9063	11.23	5.61
48	8.0098	2.7956	10.81	5.40
49	7.7143	2.6910	10.41	5.20
50	7.4346	2.5922	10.03	5.01
51	7.1696	2.4987	9.67	4.83
52	6.9184	2.4101	9.33	4.66
53	6.6800	2.3260	9.01	4.50
54	6.4535	2.2463	8.70	4.35
55	6.2383	2.1706	8.41	4.20
56	6.0335	2.0986	8.13	4.07
57	5.8370	2.0301	7.87	3.93
58	5.6461	1.9649	7.61	3.81
59	5.4643	1.9028	7.37	3.68
60	5.2911	1.8435	7.13	3.57
61	5.1259	1.7869	6.91	3.46
62	4.9683	1.7329	6.70	3.35
63	4.8178	1.6813	6.50	3.25
64	4.6739	1.6320	6.31	3.15
65	4.5364	1.5848	6.12	3.06
66	4.4047	1.5396	5.94	2.97
67	4.2787	1.4963	5.77	2.89
68	4.1580	1.4548	5.61	2.81
69	4.0423	1.4149	5.46	2.73
70	3.9313	1.3767	5.31	2.65
71	3.8248	1.3400	5.16	2.58
72	3.7225	1.3048	5.03	2.51
73	3.6243	1.2709	4.90	2.45
74	3.5299	1.2383	4.77	2.38
75	3.4390	1.2069	4.65	2.32
76	3.3517	1.1768	4.53	2.26
77	3.2676	1.1477	4.42	2.21
78	3.1866	1.1197	4.31	2.15
79	3.1086	1.0927	4.20	2.10
80	3.0333	1.0666	4.10	2.05
81	2.9608	1.0415	4.00	2.00
82	2.8908	1.0173	3.91	1.95
83	2.8233	0.9939	3.82	1.91
84	2.7581	0.9712	3.73	1.86
85	2.6951	0.9494	3.64	1.82
86	2.6342	0.9283	3.56	1.78
87	2.5754	0.9078	3.48	1.74
88	2.5185	0.8881	3.41	1.70
89	2.4635	0.8689	3.33	1.67
90	2.4102	0.8504	3.26	1.63
91	2.3587	0.8325	3.19	1.60
92	2.3087	0.8146	3.12	1.56
93	2.2604	0.7970	3.06	1.53
94	2.2135	0.7799	2.99	1.50
95	2.1681	0.7634	2.93	1.47
96	2.1240	0.7474	2.87	1.44
97	2.0813	0.7319	2.81	1.41
98	2.0398	0.7169	2.76	1.38
99	1.9996	0.7023	2.70	1.35
100	1.9606	0.6881	2.65	1.32