

EXHIBIT 11
SEED Seattle LPFM - Channel 289
Second Adjacent Channel Waiver Request

The proposed facility's Maximum Effective Radiated Power (ERP) is 100 Watts at 16 meters above ground level. The structure that will support the antenna mast is a single story classic commercial building with high ceilings. Building has a maximum external height of 10 meters. This is the maximum antenna height that will meet the Towair guidelines at this site.

There is no upper floor or habitable loft within the host structure.

The applicant proposes to reduce the potential zone of interference by reducing downward radiation through use of a Nicom BLD-1/P vertical dipole with 2 bays spaced at one full wavelength.

The desired to undesired ratio between 2nd adjacent stations is 40dB, putting the proposed facility's interfering contour vs. KBKS 291C Tacoma, FCC ID #277020 at 91 dBu. KCMS 287C1 Edmonds, FCC ID #14505 has a contour of 97 dBu at the proposed site and will be excluded from this study.

Adding the second adjacent station undesired/desired ratio of 40 dB for to the KBKS 91 dBu contour yields an interference zone of 131 dB which has a radius of 20 meters. This was plotted on a USGS quadrangle and is shown below on page 4 of this exhibit.

Since the field strength of the proposed antenna varies with angle of depression from horizontal, the antenna relative fields are tabulated at 5 degree increments. Antenna relative field strength data was provided by the manufacturer of the proposed antenna. The spec sheet is included as the last page of this exhibit.

The distance to the proposed interference contour at each angle was calculated using the FCC FM and TV Propagation Curves Calculations tool on the FCC website.

The table showing distance between the antenna and ground assumes people and their radios will be no more than 2 meters above ground level. Angular distances were computed using a 14 meter height rather than 16 to match the angles to the actual distance above ground to the top of a potential person's head or earphone radio.

There is a clearance of 11 meters between the calculated interfering signal and all points 2 meters above ground level.

There are no habitable structures within 20 meters of the antenna other than the building supporting the antenna. A satellite photo from mapper.acme.com is included on page 3 of this exhibit to illustrate the site more clearly.

The proposed facility's area of potential interference is predicted not to reach the ground or any habitable space above ground level.

Additionally, the proposed facility produces a maximum of 1.9 microwatts per square centimeter RF energy, well below the FCC limit for uncontrolled human RF exposure. The display from the FCC OET FM Model for Windows RF exposure tool is included on page 5 of this exhibit.

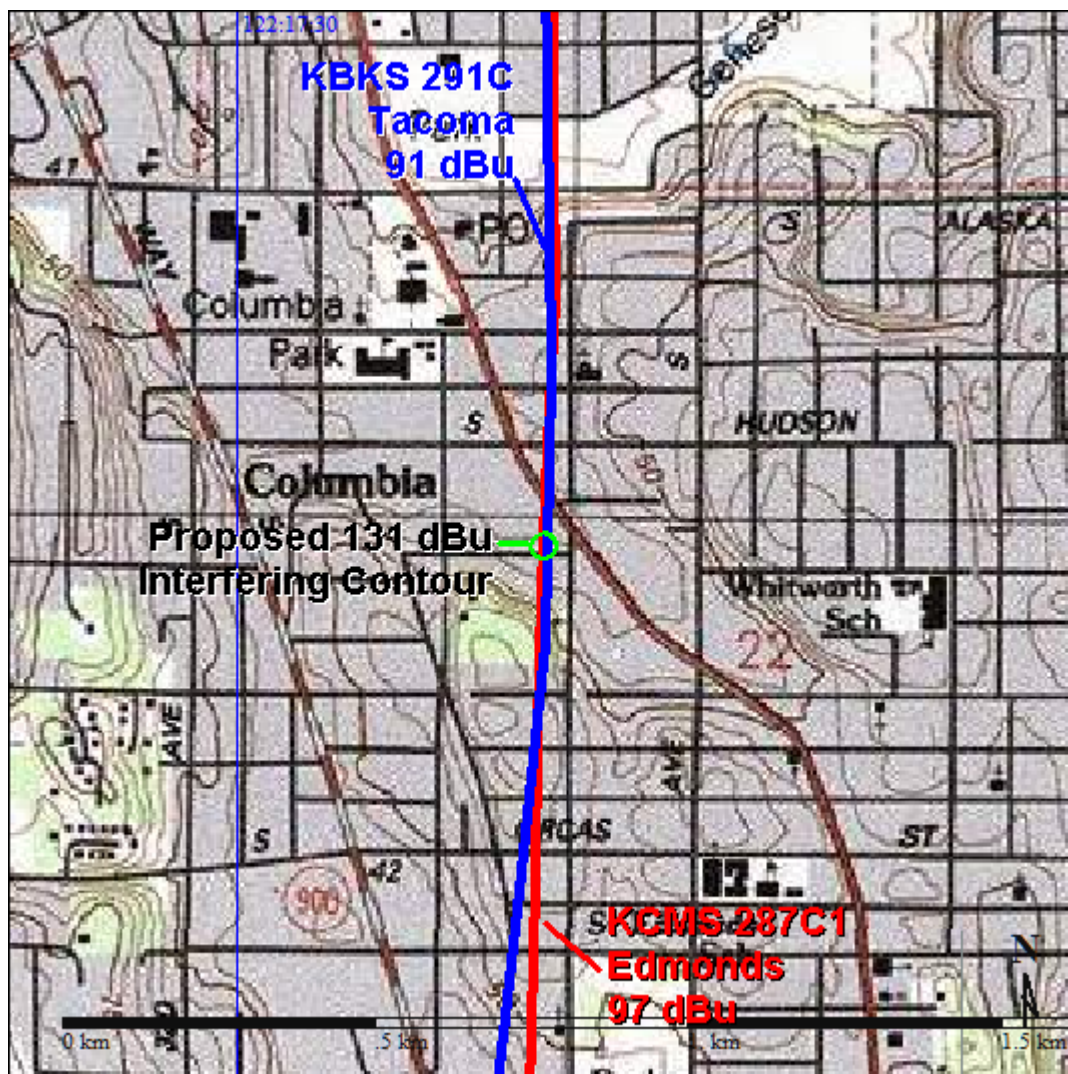
Depression Angle (from COR) Ant. 14m above affected zone	Proposed 2-Bay Vertical Antenna Relative Field	ERP (w) at elevation for 100 W Peak ERP	Distance to Interfering Contour from Antenna (m)	Distance from antenna to ground level	Clearance of Interfering Contour above ground level
5	.954	91	19	161	142
10	.875	76.6	17	81	64
15	.740	54.8	14	54	40
20	.575	33.1	11	41	30
25	.397	15.8	8	33	25
30	.222	4.9	4	28	24
35	.129	1.7	3	24	21
40	.050	0.3	1	22	21
45	.136	1.9	3	20	17
50	.186	3.5	4	16	12
55	.208	4.3	4	17	13
60	.206	4.2	4	16	12
65	.185	3.4	4	15	11
70	.156	2.4	3	15	12
75	.118	1.4	2	14	12
80	.074	0.5	1	14	13
85	.035	0.1	1	14	13
90	.000	0.0	0	14	14

Odd number angles extrapolated from manufacturer data using average of next smaller and larger even angles.

SEED Proposed LPFM Site - 5117 S. Rainier Ave., Seattle, WA



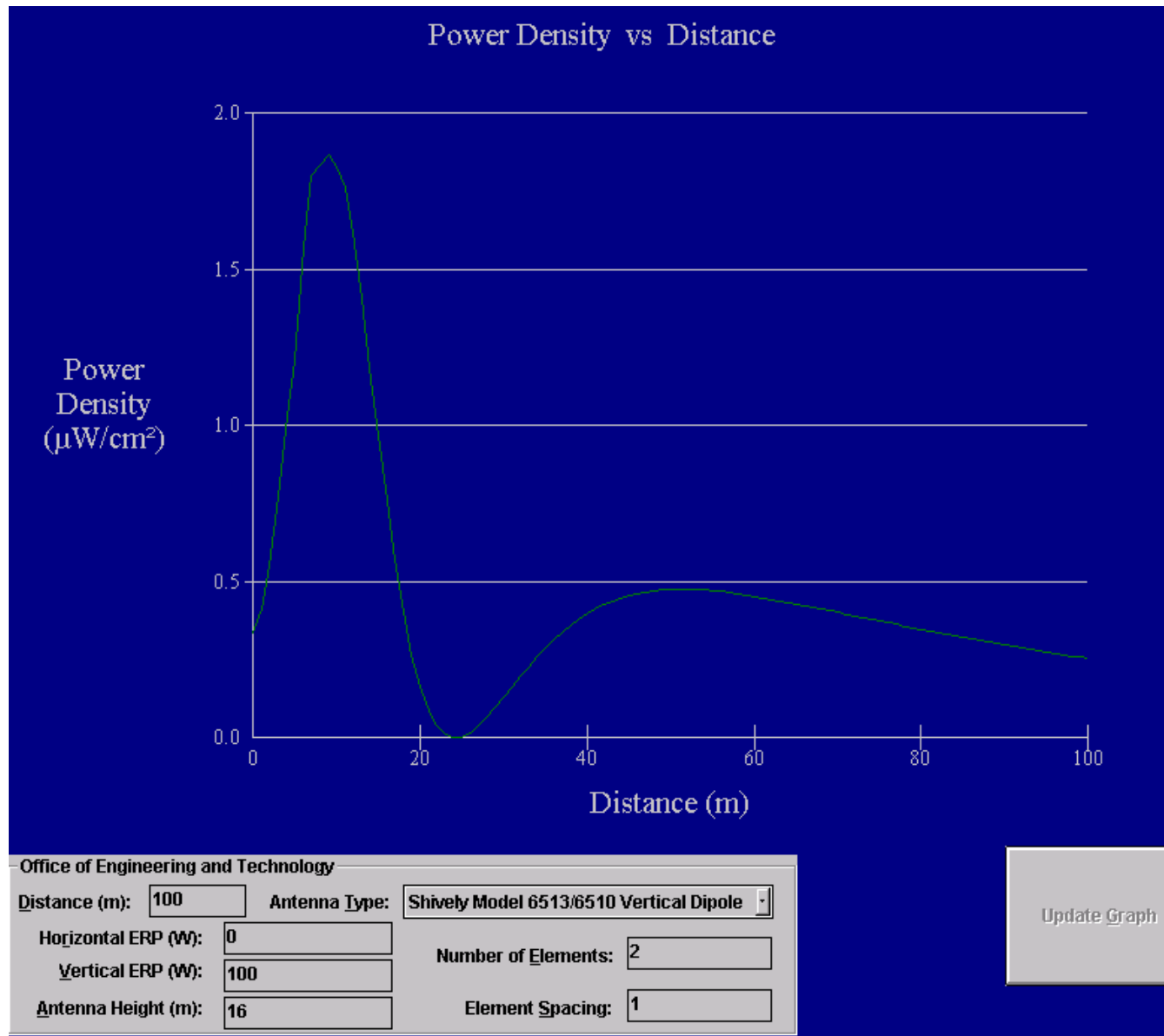
USGS Quad Map Showing 131 dBu Interference Zone



RF Exposure within guidelines for uncontrolled human exposure

Using the settings the Shively 6513/6510 which is similar to the proposed antenna, the FCC's FM Model for Windows program shows a maximum RF density of 1.9 microwatts per centimeter squared. This is within the OET guidelines for uncontrolled RF exposure.

There should be no RF hazard to humans created by the proposed facility.



Nicom BLD-1/P 2 Bay antenna at full wavelength vertical spacing

TX station: BLD-1/P (2-bay)

Site name:

Frequency: 98.00 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	3.56	60.0	20.6	0.15	120.0	7.9	0.02
2.0	99.2	3.50	62.0	20.0	0.14	122.0	7.6	0.02
4.0	97.6	3.39	64.0	19.0	0.13	124.0	7.5	0.02
6.0	95.1	3.21	66.0	18.0	0.12	126.0	7.2	0.02
8.0	91.6	2.99	68.0	16.9	0.10	128.0	6.7	0.02
10.0	87.5	2.72	70.0	15.6	0.09	130.0	6.2	0.01
12.0	82.5	2.42	72.0	14.2	0.07	132.0	5.4	0.01
14.0	77.0	2.11	74.0	12.6	0.06	134.0	4.5	0.01
16.0	70.9	1.79	76.0	11.0	0.04	136.0	3.6	0.00
18.0	64.3	1.47	78.0	9.2	0.03	138.0	2.5	0.00
20.0	57.5	1.18	80.0	7.4	0.02	140.0	1.4	0.00
22.0	50.4	0.90	82.0	5.8	0.01	142.0	0.2	0.00
24.0	43.3	0.67	84.0	4.2	0.01	144.0	1.2	0.00
26.0	36.1	0.46	86.0	2.8	0.00	146.0	2.6	0.00
28.0	28.9	0.30	88.0	1.8	0.00	148.0	4.1	0.01
30.0	22.2	0.17	90.0	0.8	0.00	150.0	5.7	0.01
32.0	15.8	0.09	92.0	1.4	0.00	152.0	7.2	0.02
34.0	9.9	0.04	94.0	2.2	0.00	154.0	8.9	0.03
36.0	4.4	0.01	96.0	3.1	0.00	156.0	10.5	0.04
38.0	0.6	0.00	98.0	4.0	0.01	158.0	12.1	0.05
40.0	5.0	0.01	100.0	5.0	0.01	160.0	13.7	0.07
42.0	0.9	0.03	102.0	5.7	0.01	162.0	15.3	0.08
44.0	12.3	0.05	104.0	6.3	0.01	164.0	16.8	0.10
46.0	15.0	0.08	106.0	6.8	0.02	166.0	18.1	0.12
48.0	17.2	0.11	108.0	7.1	0.02	168.0	19.1	0.13
50.0	18.0	0.13	110.0	7.4	0.02	170.0	20.1	0.14
52.0	20.0	0.14	112.0	7.6	0.02	172.0	20.8	0.15
54.0	20.6	0.15	114.0	7.6	0.02	174.0	21.4	0.16
56.0	20.9	0.16	116.0	7.9	0.02	176.0	22.0	0.17
58.0	20.9	0.16	118.0	7.9	0.02	178.0	22.6	0.18

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