RECORDING NW
KOUV-LP 107.9 FM VANCOUVER, WASHINGTON
FAC ID NO. 196567

MINOR MODIFICATION OF CP

Channel	300
New Location:	45° 39' 51.9" N 122° 28' 11.3" W-- NAD 83
	45° 39' 52.2" N 122° 28' 07.0" W -- NAD 27
Antenna AGL	14 m (mounted on existing support structure; antenna-sharing structure)
Tower Total	16 m
Antenna Ground	81 m
Antenna COR	95 m
HAAT	-44 m
Power	50 w

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                           Recording Nw
   REFERENCE                                        DISPLAY DATES
   45 39 52.5 N.                CLASS = L1          DATA    07-17-18
   122 28 07.0 W.         Current  Spacings to 2nd Adj.    SEARCH 07-17-18
    ------------------------ Channel 300 - 107.9 MHz --------------------------


   Call           Channel    Location             Azi     Dist    FCC    Margin
   -----------------------------------------------------------------------------

  *KXJM    LIC    298C0   Banks           OR     231.4    26.41   83.5   -57.1
   KOUV-LP  LIC    300L1   Vancouver       WA     337.1     3.60   23.5   -19.9
   KOUV-LP  CP     300L1   Vancouver       WA      70.4     4.80   23.5   -18.7
   KHPE    LIC    300C    Albany          OR     209.3   129.53  129.5    0.03


   -----------------------------------------------------------------------------
       Reference station has protected zone issue: Canada
       All separation margins include rounding
        *See Second Adjacent Waiver
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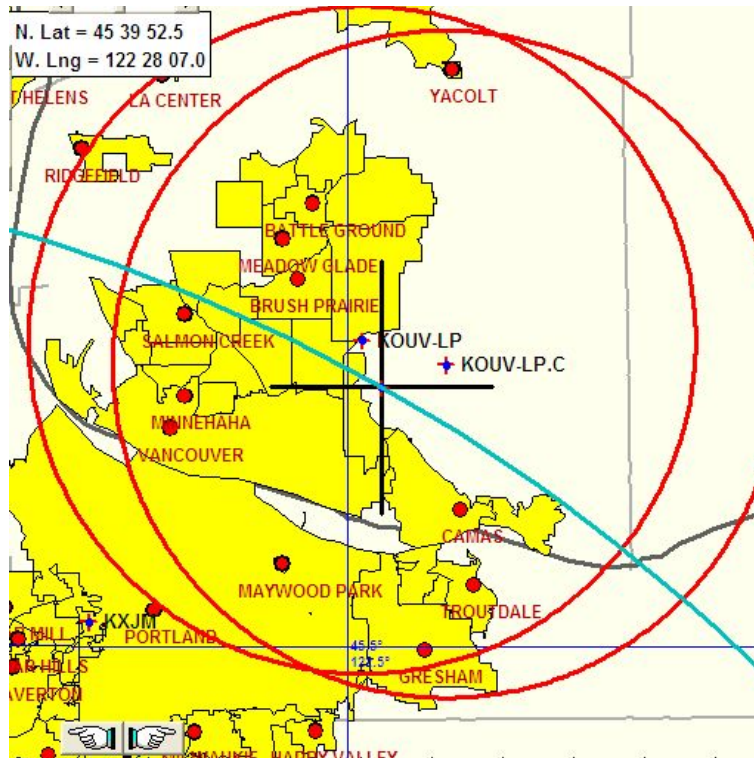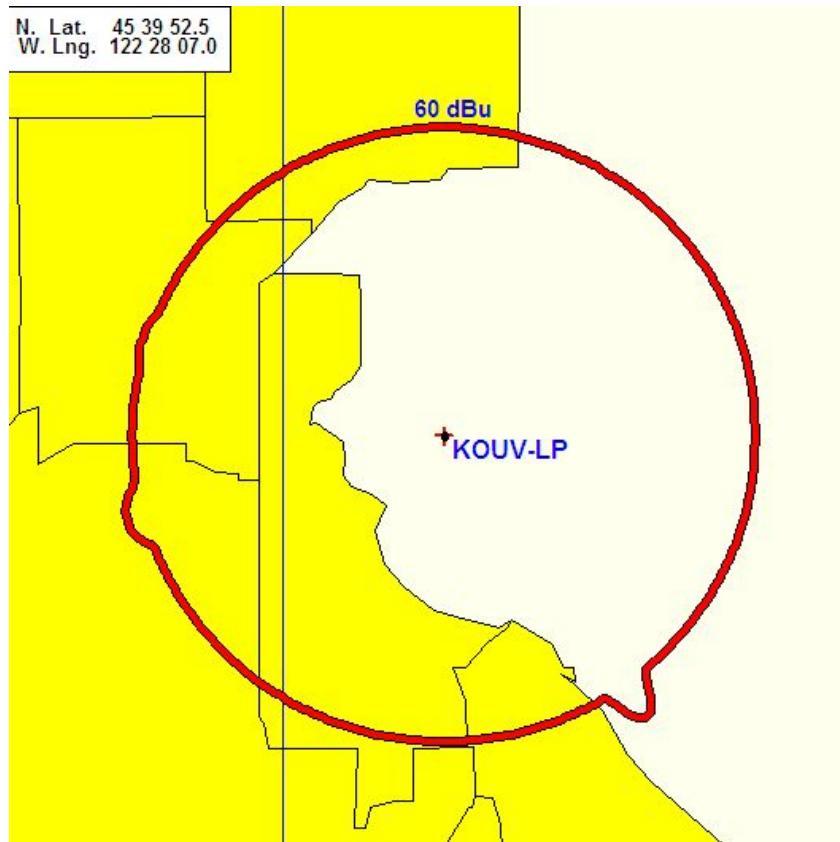
Minor Change Move

Facility proposes 3.6 km move from licensed facility.

60 dBu FCC Contour

60 dBu

+KOUV-LP

TOWAIR (PASS)

DETERMINATION Results

PASS SLOPE(50:1): NO FAA REQ-RWY 10499 MTRS OR LESS & 6205.72 MTRS (6.20570) KM AWAY

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	45-37-40.00N	122-24-35.00W	GROVE FIELD	CLARK CAMAS, WA	125.0	826.0

PASS SLOPE(50:1): NO FAA REQ-RWY 10499 MTRS OR LESS & 4478.73 MTRS (4.47869) KM AWAY

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	45-41-14.00N	122-31-2.00W	FLY FOR FUN	CLARK VANCOUVER, WA	90.5	741.89999999999998

Your Specifications

NAD83 Coordinates

Latitude	45-39-51.9 north
Longitude	122-28-11.3 west

Measurements (Meters)

Overall Structure Height (AGL)	16
Support Structure Height (AGL)	9
Site Elevation (AMSL)	81

Structure Type

B - Building

Second Adjacent Waiver Request

License respectfully requests a "second adjacent channel waiver" with regards to Section 47 C.F.R. Section 73.807 of the FCC rules based upon the "Living Way" precedence (Living Way Ministries, Inc., Memorandum Opinion and Order, 17 FCC Red 17054, 17056, ¶ 5 (2002), recon. denied 23 FCC Red 15070 (2008)). This will be accomplished by used Free Space methodology of calculation.

Using U/D methodology, at the proposed KOUV-LP transmitter location KXJM has a signal strength of 87.1 dBu. Interference will occur when the signal strength interfering signal exceeds the desired signal by 40 dbu. So the area of predicted interference would then be bounded by the 114 dBu contour.

The distance to this contour, using free space method:
$D = (7.01 * P^{1/2})/E$,
where P is power (watts), E is field strength (v/m), and D is distance to contour (meters):
P = 50 w, E = 127.1 dBu D = 22 meters

However, the field strength of the proposed LPFM's antenna system falls quickly at depression angles below the horizon. Using elevation pattern data provided by Scala for for a vertical dipole antenna (Model FMVP - https://www.kathreinusa.com/patterns/product-number-fmvmp/), the distance to the 127.1 dBu contour at various depression angles is tabulated below. The data shows that the lowest point at which the signal strength rises to 127.1 dBu is 9.1 meters below the center of radiation of the antenna system, or 3.9 meter above the ground. There are only some signal story buildings within the proximity of the private-property automotive salvage yard for with the antenna is co-located. Therefore, this is sufficient clearance, and the interference area encompasses zero population. The table below show that the lowest elevation point of the 127.1 dBu F(50,10) interfering contour is 3.9 meters above the roof.

Due to zero population within this radiation radius, this meets the "Living Way" Criteria to qualify for a Waiver of 47 C.F.R. Section 73.807.

Thus, the applicant requests second adjacent waiver based upon evidence no interference is proposed.

A MAX ERP
B DEPRESSION ANGLE
C RELATIVE FIELD
D dB FROM RELATIVE
E ERP
F ANGULAR DISTANCE TO 127.1 dBu CONTOUR

G VERTICAL DISTANCE (below antenna)
H HORIZONTAL DISTANCE TO 127.1 dBu CONTOUR
I CLEARANCE OF CONTOUR ABOVE GROUND

A	B	C	D	E	F	G	H	I
50	-90	0.025	-31.890	0.03	0.5	0.4	0	12.6
50	-89	0.017	-35.560	0.01	0.3	0.2	0	12.8
50	-88	0.01	-40.000	0.01	0.2	0.1	0	12.9
50	-87	0.01	-40.000	0.01	0.2	0.1	0	12.9
50	-86	0.01	-39.940	0.01	0.2	0.1	0	12.9
50	-85	0.019	-34.300	0.02	0.4	0.3	0	12.7
50	-84	0.028	-30.910	0.04	0.6	0.5	0	12.5
50	-83	0.038	-28.420	0.07	0.8	0.7	0	12.3
50	-82	0.047	-26.480	0.11	1	0.9	0.1	12.1
50	-81	0.057	-24.860	0.16	1.2	1.1	0.1	11.9
50	-80	0.067	-23.490	0.22	1.4	1.3	0.2	11.7
50	-79	0.077	-22.270	0.30	1.6	1.5	0.3	11.5
50	-78	0.087	-21.200	0.38	1.9	1.8	0.3	11.2
50	-77	0.098	-20.210	0.48	2.1	2	0.4	11
50	-76	0.108	-19.330	0.58	2.3	2.2	0.5	10.8
50	-75	0.119	-18.490	0.71	2.6	2.5	0.6	10.5
50	-74	0.13	-17.730	0.84	2.8	2.6	0.7	10.4
50	-73	0.141	-17.010	1.00	3	2.8	0.8	10.2
50	-72	0.152	-16.340	1.16	3.3	3.1	1	9.9
50	-71	0.164	-15.690	1.35	3.5	3.3	1.1	9.7
50	-70	0.176	-15.08	1.55	3.8	3.5	1.3	9.5
50	-69	0.188	-14.5	1.77	4.1	3.8	1.4	9.2
50	-68	0.201	-13.95	2.01	4.3	3.9	1.6	9.1
50	-67	0.214	-13.41	2.28	4.6	4.2	1.7	8.8
50	-66	0.226	-12.9	2.56	4.9	4.4	1.9	8.6
50	-65	0.24	-12.4	2.88	5.2	4.7	2.2	8.3
50	-64	0.254	-11.92	3.21	5.5	4.9	2.4	8.1
50	-63	0.268	-11.45	3.58	5.8	5.1	2.6	7.9
50	-62	0.282	-11.01	3.96	6.1	5.3	2.8	7.7

50	-61	0.296	-10.57	4.39	6.4	5.5	3.1	7.5
50	-60	0.31	-10.16	4.82	6.7	5.8	3.3	7.2
50	-59	0.326	-9.75	5.30	7.1	6	3.6	7
50	-58	0.341	-9.35	5.81	7.4	6.2	3.9	6.8
50	-57	0.356	-8.96	6.35	7.8	6.5	4.2	6.5
50	-56	0.372	-8.59	6.92	8.1	6.7	4.5	6.3
50	-55	0.388	-8.22	7.53	8.4	6.8	4.8	6.2
50	-54	0.404	-7.87	8.17	8.8	7.1	5.1	5.9
50	-53	0.421	-7.52	8.85	9.2	7.3	5.5	5.7
50	-52	0.438	-7.18	9.57	9.5	7.4	5.8	5.6
50	-51	0.455	-6.85	10.33	9.9	7.6	6.2	5.4
50	-50	0.472	-6.53	11.12	10.3	7.8	6.6	5.2
50	-49	0.489	-6.22	11.94	10.6	7.9	6.9	5.1
50	-48	0.506	-5.92	12.79	11	8.1	7.3	4.9
50	-47	0.523	-5.63	13.68	11.4	8.3	7.7	4.7
50	-46	0.541	-5.34	14.62	11.8	8.4	8.2	4.6
50	-45	0.558	-5.07	15.56	12.2	8.6	8.6	4.4
50	-44	0.575	-4.8	16.56	12.5	8.6	8.9	4.4
50	-43	0.593	-4.54	17.58	12.9	8.7	9.4	4.3
50	-42	0.61	-4.29	18.62	13.3	8.8	9.8	4.2
50	-41	0.628	-4.05	19.68	13.7	8.9	10.3	4.1
50	-40	0.645	-3.81	20.80	14.1	9	10.8	4
50	-39	0.662	-3.59	21.88	14.4	9	11.1	4
50	-38	0.678	-3.37	23.01	14.8	9.1	11.6	3.9
50	-37	0.695	-3.16	24.15	15.2	9.1	12.1	==3.9==
50	-36	0.711	-2.96	25.29	15.5	9.1	12.5	3.9
50	-35	0.727	-2.77	26.42	15.9	9.1	13	3.9
50	-34	0.743	-2.58	27.60	16.2	9	13.4	4
50	-33	0.758	-2.4	28.77	16.6	9	13.9	4
50	-32	0.774	-2.23	29.92	16.9	8.9	14.3	4.1
50	-31	0.788	-2.07	31.04	17.2	8.8	14.7	4.2
50	-30	0.803	-1.91	32.21	17.5	8.7	15.1	4.3
50	-29	0.816	-1.76	33.34	17.8	8.6	15.5	4.4
50	-28	0.83	-1.62	34.43	18.1	8.4	15.9	4.6

50	-27	0.842	-1.49	35.48	18.4	8.3	16.3	4.7
50	-26	0.855	-1.36	36.56	18.7	8.1	16.8	4.9
50	-25	0.867	-1.24	37.58	18.9	7.9	17.1	5.1
50	-24	0.878	-1.13	38.55	19.2	7.8	17.5	5.2
50	-23	0.889	-1.02	39.53	19.4	7.5	17.8	5.5
50	-22	0.899	-0.92	40.45	19.6	7.3	18.1	5.7
50	-21	0.909	-0.83	41.30	19.8	7	18.4	6
50	-20	0.918	-0.74	42.17	20.1	6.8	18.8	6.2
50	-19	0.927	-0.66	42.95	20.2	6.5	19.1	6.5
50	-18	0.935	-0.58	43.75	20.4	6.3	19.4	6.7
50	-17	0.942	-0.51	44.46	20.6	6	19.7	7
50	-16	0.95	-0.45	45.08	20.7	5.7	19.8	7.3
50	-15	0.956	-0.39	45.71	20.9	5.4	20.1	7.6
50	-14	0.962	-0.34	46.23	21	5	20.3	8
50	-13	0.967	-0.29	46.77	21.1	4.7	20.5	8.3
50	-12	0.973	-0.24	47.31	21.2	4.4	20.7	8.6
50	-11	0.977	-0.2	47.75	21.3	4	20.9	9
50	-10	0.982	-0.16	48.19	21.4	3.7	21	9.3
50	-9	0.985	-0.13	48.53	21.5	3.3	21.2	9.7
50	-8	0.989	-0.1	48.86	21.6	3	21.3	10
50	-7	0.991	-0.08	49.09	21.6	2.6	21.4	10.4
50	-6	0.993	-0.06	49.31	21.7	2.2	21.5	10.8
50	-5	0.995	-0.04	49.54	21.7	-1.8	21.6	14.8
50	-4	0.997	-0.03	49.66	21.8	-1.5	21.7	14.5
50	-3	0.998	-0.02	49.77	21.8	-1.1	21.7	14.1
50	-2	0.999	-0.01	49.89	21.8	-0.7	21.7	13.7
50	-1	0.999	0	50.00	21.8	-0.3	21.7	13.3
50	0	1	0	50.00	21.8	0	21.8	13
50	1	0.999	0	50.00	21.8	0.3	21.7	12.7
50	2	0.999	-0.01	49.89	21.8	0.7	21.7	12.3
50	3	0.998	-0.02	49.77	21.8	1.1	21.7	11.9
50	4	0.997	-0.03	49.66	21.8	1.5	21.7	11.5
50	5	0.995	-0.04	49.54	21.7	1.8	21.6	11.2
50	6	0.993	-0.06	49.31	21.7	2.2	21.5	10.8

50	7	0.991	-0.08	49.09	21.6	2.6	21.4	10.4
50	8	0.989	-0.1	48.86	21.6	3	21.3	10
50	9	0.985	-0.13	48.53	21.5	3.3	21.2	9.7
50	10	0.982	-0.16	48.19	21.4	3.7	21	9.3
50	11	0.977	-0.2	47.75	21.3	4	20.9	9
50	12	0.973	-0.24	47.31	21.2	4.4	20.7	8.6
50	13	0.967	-0.29	46.77	21.1	4.7	20.5	8.3
50	14	0.962	-0.34	46.23	21	5	20.3	8
50	15	0.956	-0.39	45.71	20.9	5.4	20.1	7.6
50	16	0.95	-0.45	45.08	20.7	5.7	19.8	7.3
50	17	0.942	-0.51	44.46	20.6	6	19.7	7
50	18	0.935	-0.58	43.75	20.4	6.3	19.4	6.7
50	19	0.927	-0.66	42.95	20.2	6.5	19.1	6.5
50	20	0.918	-0.74	42.17	20.1	6.8	18.8	6.2
50	21	0.909	-0.83	41.30	19.8	7	18.4	6
50	22	0.899	-0.92	40.45	19.6	7.3	18.1	5.7
50	23	0.889	-1.02	39.53	19.4	7.5	17.8	5.5
50	24	0.878	-1.13	38.55	19.2	7.8	17.5	5.2
50	25	0.867	-1.24	37.58	18.9	7.9	17.1	5.1
50	26	0.855	-1.36	36.56	18.7	8.1	16.8	4.9
50	27	0.842	-1.49	35.48	18.4	8.3	16.3	4.7
50	28	0.83	-1.62	34.43	18.1	8.4	15.9	4.6
50	29	0.816	-1.76	33.34	17.8	8.6	15.5	4.4
50	30	0.803	-1.91	32.21	17.5	8.7	15.1	4.3
50	31	0.788	-2.07	31.04	17.2	8.8	14.7	4.2
50	32	0.774	-2.23	29.92	16.9	8.9	14.3	4.1
50	33	0.758	-2.4	28.77	16.6	9	13.9	4
50	34	0.743	-2.58	27.60	16.2	9	13.4	4
50	35	0.727	-2.77	26.42	15.9	9.1	13	3.9
50	36	0.711	-2.96	25.29	15.5	9.1	12.5	3.9
50	37	0.695	-3.16	24.15	15.2	9.1	12.1	3.9
50	38	0.678	-3.37	23.01	14.8	9.1	11.6	3.9
50	39	0.662	-3.59	21.88	14.4	9	11.1	4
50	40	0.645	-3.81	20.80	14.1	9	10.8	4

50	41	0.628	-4.05	19.68	13.7	8.9	10.3	4.1
50	42	0.61	-4.29	18.62	13.3	8.8	9.8	4.2
50	43	0.593	-4.54	17.58	12.9	8.7	9.4	4.3
50	44	0.575	-4.8	16.56	12.5	8.6	8.9	4.4
50	45	0.558	-5.07	15.56	12.2	8.6	8.6	4.4
50	46	0.541	-5.34	14.62	11.8	8.4	8.2	4.6
50	47	0.523	-5.63	13.68	11.4	8.3	7.7	4.7
50	48	0.506	-5.92	12.79	11	8.1	7.3	4.9
50	49	0.489	-6.22	11.94	10.6	7.9	6.9	5.1
50	50	0.472	-6.53	11.12	10.3	7.8	6.6	5.2
50	51	0.455	-6.85	10.33	9.9	7.6	6.2	5.4
50	52	0.438	-7.18	9.57	9.5	7.4	5.8	5.6
50	53	0.421	-7.52	8.85	9.2	7.3	5.5	5.7
50	54	0.404	-7.87	8.17	8.8	7.1	5.1	5.9
50	55	0.388	-8.22	7.53	8.4	6.8	4.8	6.2
50	56	0.372	-8.59	6.92	8.1	6.7	4.5	6.3
50	57	0.356	-8.96	6.35	7.8	6.5	4.2	6.5
50	58	0.341	-9.35	5.81	7.4	6.2	3.9	6.8
50	59	0.326	-9.75	5.30	7.1	6	3.6	7
50	60	0.31	-10.16	4.82	6.7	5.8	3.3	7.2
50	61	0.296	-10.57	4.39	6.4	5.5	3.1	7.5
50	62	0.282	-11.01	3.96	6.1	5.3	2.8	7.7
50	63	0.268	-11.45	3.58	5.8	5.1	2.6	7.9
50	64	0.254	-11.92	3.21	5.5	4.9	2.4	8.1
50	65	0.24	-12.4	2.88	5.2	4.7	2.2	8.3
50	66	0.226	-12.9	2.56	4.9	4.4	1.9	8.6
50	67	0.214	-13.41	2.28	4.6	4.2	1.7	8.8
50	68	0.201	-13.95	2.01	4.3	3.9	1.6	9.1
50	69	0.188	-14.5	1.77	4.1	3.8	1.4	9.2
50	70	0.176	-15.08	1.55	3.8	3.5	1.3	9.5
50	71	0.164	-15.69	1.35	3.5	3.3	1.1	9.7
50	72	0.152	-16.34	1.16	3.3	3.1	1	9.9
50	73	0.141	-17.01	1.00	3	2.8	0.8	10.2
50	74	0.13	-17.73	0.84	2.8	2.6	0.7	10.4

50	75	0.119	-18.49	0.71	2.6	2.5	0.6	10.5
50	76	0.108	-19.33	0.58	2.3	2.2	0.5	10.8
50	77	0.098	-20.21	0.48	2.1	2	0.4	11
50	78	0.087	-21.2	0.38	1.9	1.8	0.3	11.2
50	79	0.077	-22.27	0.30	1.6	1.5	0.3	11.5
50	80	0.067	-23.49	0.22	1.4	1.3	0.2	11.7
50	81	0.057	-24.86	0.16	1.2	1.1	0.1	11.9
50	82	0.047	-26.48	0.11	1	0.9	0.1	12.1
50	83	0.038	-28.42	0.07	0.8	0.7	0	12.3
50	84	0.028	-30.91	0.04	0.6	0.5	0	12.5
50	85	0.019	-34.3	0.02	0.4	0.3	0	12.7
50	86	0.01	-39.94	0.01	0.2	0.1	0	12.9
50	87	0.01	-40	0.01	0.2	0.1	0	12.9
50	88	0.01	-40	0.01	0.2	0.1	0	12.9
50	89	0.017	-35.56	0.01	0.3	0.2	0	12.8
50	90	0.025	-31.89	0.03	0.5	0.4	0	12.6