

**Engineering Special Temporary Authority
KXYQ-LP Facility ID 195722 Portland, Oregon**

STA Request

KXYQ-LP requests temporary relocation of the antenna approximately 685 meters east of its current site to an established communications tower. Due to persistent rain, the current supporting structure, a tree, has been compromised and is failing. Purposed interim location's 60 dBu F (50,50) will reside completely inside its licensed contour.

Licensee requests permission for temporary location for transmitter and antenna until broadcast location difficulties are ameliorated. KXYQ-LP desires to maintain service to the Beaverton community to retain its listener base via the interim proposed broadcast location. The retained service of the non-commercial educational service is thus in the public interest. Duration of broadcast is expected throughout the rest of the Spring 2018.

Engineering

Site Location: 45-27-27.7 N 122-52-04.8 W (NAD 27)

Site Location: 45-27-27.1 N 122-52-09.2 W (NAD 83)

Site Elevation: 204.2 m

ASRN: 1012339

AGL: 6 m

AMSL: 210.2 m

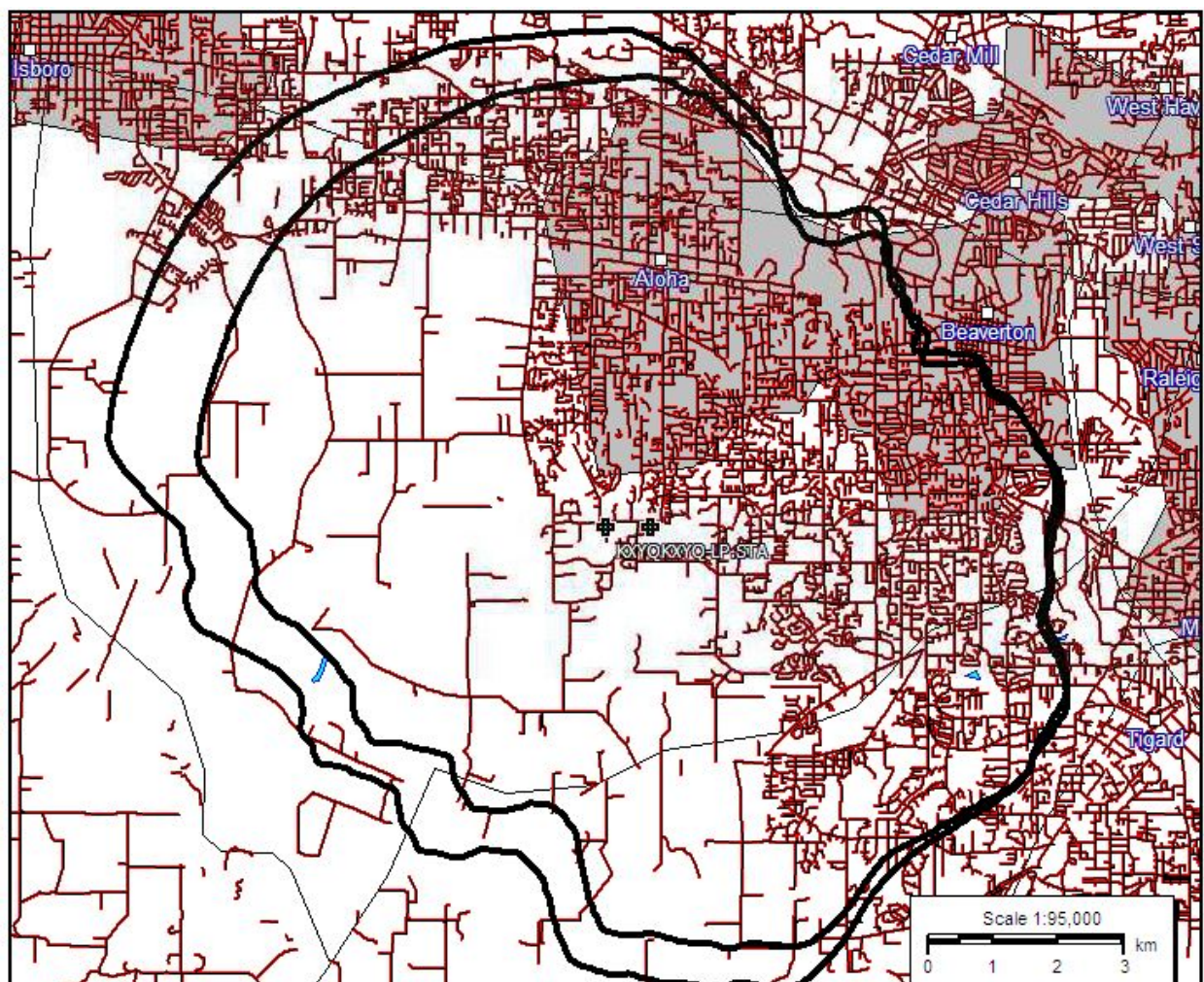
Tower Overall: 21.3 m

Watt: 9.5 w (round to 10)

HAAT: 80 m (GLOBE Terrain Calculation - HAAT Calculated Below)

Antenna Height Above Average Terrain Calculations -- Results	
Input Data	
Latitude	45° 27' 27.1" North
Longitude	122° 52' 9.2" West (NAD 83)
Height of antenna radiation center above mean sea level: 210.2 meters AMSL	
Number of Evenly Spaced Radials = 8 0° is referenced to True North	
Results	
Calculated HAAT = 80 meters	
Antenna Height Above Average Terrain calculated using 1 km GLOBE terrain data	
Individual "Radial HAAT" Values, in meters	
0°	114.8 m
45°	52.8 m
90°	59.9 m
135°	79.8 m
180°	76.6 m
225°	42.0 m
270°	88.6 m
315°	126.1 m

60 dBu Coverage: The current licensed (13 w larger contour) and proposed STA, (9.5 w) contours are demonstrated below



Waiver Request

Short Spacing Undesired-to-Desired Ratio Calculation to second-adjacent channel facility

Undesired-to-Desired Ratio Method:

BMLH20100429ABZ f(50,50) (KINK) signal: 100.1 dBu
BLH20100503ACD f(50,50) (KXL-FM) signal: 100.1 dbu
Second-adjacent protection: + 40 dB
Interference-zone boundary: 140.1 dBu

Using the signal strength of 140.1 dBu, with an ERP of 42 Watts, the free-space distance to this level of approximately 2 m around the antenna, which is 4 meters above the ground. Thus, by *Living Way* precedent, zero population is affected within the overlap area. The proposal qualifies for a second adjacent waiver.

Radiofrequency Electromagnetic Exposure

Licensee proposes antenna collocation at an established tower site sanctioned for radio broadcast (ASRN 1012339). This site is located on top of a hill, separated from residential and commercial development. The proposed center of radiation is 6 m AGL. The proposed ERP is 10 watts. RF exposure calculations were made using FM Model for Windows, version 2.10. Since the antenna model to be employed is not among the FM Model list of antenna types, the worst case "Ring Stub/Dipole (EPA)" setting was used for RF exposure calculations. Other emitters on the tower were modeled using a ring stub to derive a total radiation level at 1.5 m above ground:

<u>FACILITY</u>	<u>AGL(m)</u>	<u>POWER(watts)</u>	<u>PEAK RF FIELD CONTRIBUTION</u> <u>(at 1.5 m above ground, $\mu\text{W}/\text{cm}^2$)</u>
KVBE-LP	20	10	1.48
KXMG-LP	18.7	5	0.87
KQRZ-LP	21.3	10	1.27
KXYQ-LPSTA	6	10	64.34
Total			68 $\mu\text{W}/\text{cm}^2$

The predicted a peak exposure at the site for a human at the base of the tower is 68 $\mu\text{W}/\text{cm}^2$. This represents 34% of the Maximum Permissible Exposure (MPE) of 200 $\mu\text{W}/\text{cm}^2$ for uncontrolled environments. There are no other sources of RF energy on the structure or in the vicinity. The site has fencing and RF warnings posted.