

# **K248CN, Minor Modification Consolidated Engineering Exhibit Washington State University**

## **Summary**

Washington State University ("WSU"), licensee of K248CN (Ariel, WA, facility ID 142354) proposes the following changes to K248CN. These modifications are proposed to improve coverage, in turn providing better service to the public through the non-commercial programming and news service aired by this facility. This will also reduce actual interference received by the facility by co-channel KVNK-LP (Vancouver, WA) south and west of its present location.

1. Relocate the facility from its current location to a location approximately 17 km north-northwest, closer to much of the existing target population
2. Adjust effective radiated power ("ERP") to 0.0155kW, the maximum permissible from the proposed location
3. Re-assign the city of license to Longview, WA, more accurately reflecting the intended area of coverage.

## **Overlap Requirements**

Using the Commission's online HAAT calculator, a maximum HAAT was found to be 415.2 m on the 270-degree radial, allowing a maximum ERP of 0.0155 kW as outlined in 47 CFR §74.1235(b)(2). The proposed facility will use an ERP of 0.0155 kW.

This facility is approximately 245 km from the common border between the United States and Canada and thus within the Canadian border zone of 320 km but does not interfere with any Canadian facilities. Using the FCC's online calculators (HAAT and FM/TV Propagation Curves), the 34 dBμ (50,10) contour extends 46.2 km north of the proposed facility, excluding it from referral for coordination with the Government of Canada.

*Table 1* also shows that the proposed facility's 100 dBμ (50,10) contour is fully contained within the 60 dBμ (50,50) contours of second-adjacent facility of KYCH, Channel 246C1. *Figure 1* shows that the 61.9 dBμ (50,50) contour passes just north of the proposed site of K248CN. Thus, the interfering contour of the proposed facility is the 101.9 dBμ (50,10) contour. This contour extends out approximately 220 meters from the facility, encompassing approximately 0.15 square kilometers. An analysis using V-Soft Probe 4 shows no population within this area, satisfying the requirement of §74.1204(d).

There are no prohibited IF relationships. The applicant believes that the proposed facility meets all applicable requirements of 47 CFR §74.1204.

## **Service Contour Overlap**

*Figure 2* demonstrates that this application qualifies as a minor change with respect to overlap of the 1 mV/m service areas of the existing and proposed facilities as defined in 47 CFR § 74.1233(a)(1).

## **Environmental Statement**

The proposed site is not in an officially designated wilderness area, wildlife preserve, flood plain, or near a site that is either listed or eligible for listing in the National Register of Historic Places. The proposed construction will not adversely affect any listed or proposed threatened or endangered species or their critical habitats, or any sites significant to Native American Religious practice, and will not involve any significant change in surface features. The applicant does not propose to light the antenna support structure with high intensity white lighting.

The proposed facility is located at an existing broadcast transmission site located in a rural area. The site is fenced with a locked gate that prevents public access. There are no nearby residential or office sites that have occupants.

The proposed facility will operate with a circularly polarized antenna with an effective radiated power (ERP) of 15.5 watts (0.0155 kW). Since the total ERP of 31 watts is less than 100 watts, the proposed facility is excluded from environmental processing under the current FCC standard regarding human exposure to nonionizing radiation and need not be considered in conjunction with other co-located or nearby facilities in evaluating compliance with this standard.

The applicant is cognizant of their responsibility to protect those workers whose duties require that they be in the vicinity of the antenna from exposure to radio frequency fields in excess of permitted exposure levels. To that end, the applicant will ensure that signage is attached to the base of the antenna support structure warning all workers of the potential for harmful exposure and directing them to contact the responsible person at the proposed broadcast station. That person will ascertain whether the worker will be in areas where there is an exposure hazard, and if so, arrange to shut down the transmitter. The applicant will also coordinate with other users of the site to reduce power or cease operation in order to protect persons having access to the site, tower or antenna from radiofrequency radiation in excess of Commission guidelines.

For these reasons, the applicant believes that a Commission grant of this application would not have a significant environmental impact.

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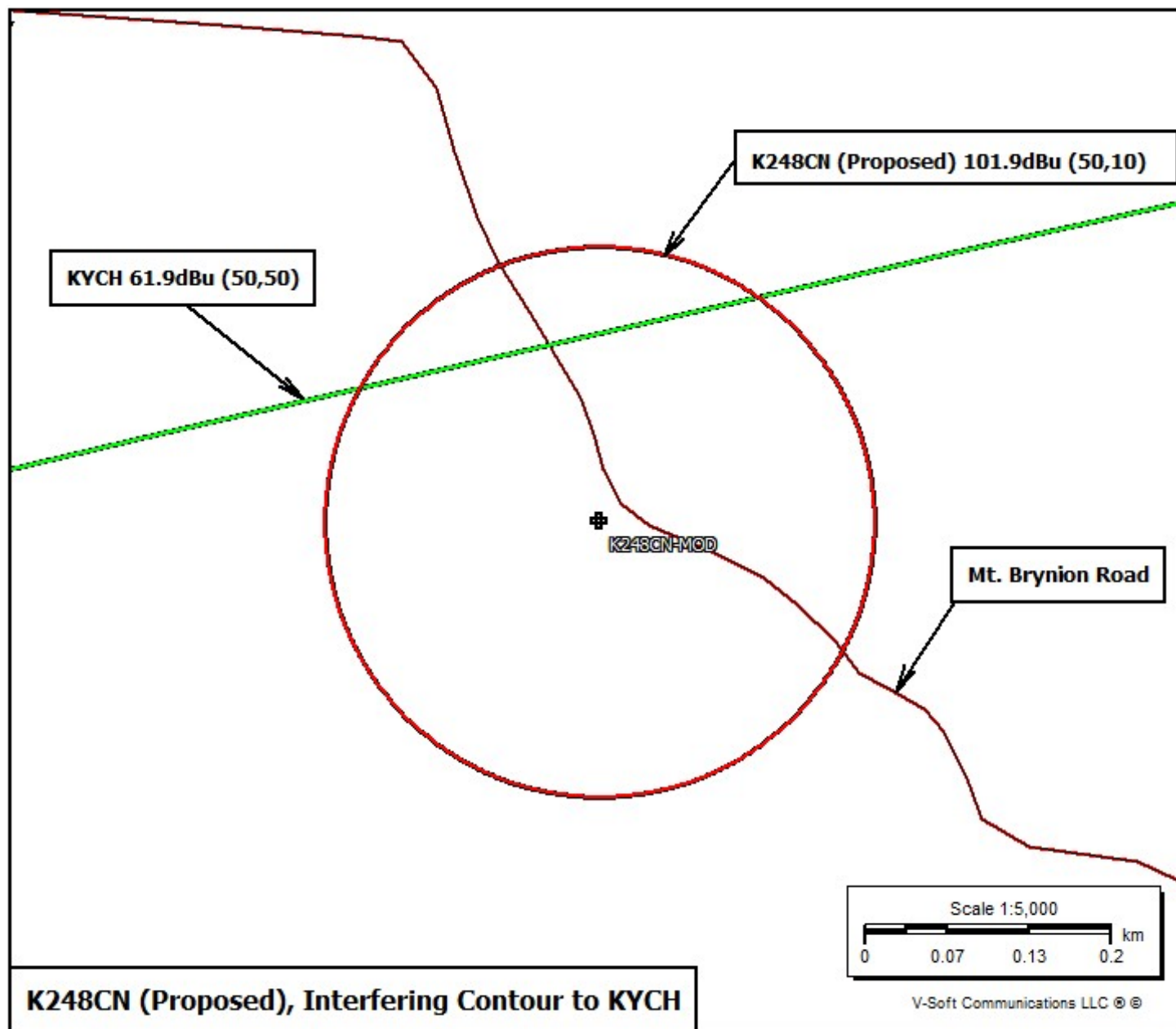
REFERENCE CH# 248D - 97.5 MHz, Pwr= 0.0155 kw, HAAT= 264.6 M, COR= 444.2 M      DISPLAY DATES  
46 09 49.20 N.      Average Protected F(50-50)= 10.62 km      DATA 10-17-19  
122 51 13.60 W.      Omni-directional      SEARCH 10-17-19

CH CITY	CALL	TYPE ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
248D Ariel	K248CN	LIC ___ WA	159.8 339.8	17.46 BLFT20160318ACC	46 00 58.40 122 46 32.30	0.005	653	---Reference---		Washington State Universit
249C Oakville	KOMO-FM	LIC D___ WA	343.0 162.6	133.72 BLH20120927AEZ	47 18 45.30 123 22 19.60	69.000 701	141.6 992	96.8	-20.4*<	18.6 South Sound Broadcasting,
246C Portland	KYCH-FM	LIC ___ OR	170.7 350.8	76.01 BLH19900821KA	45 29 19.40 122 41 44.30	100.000 386	11.7 480	80.6	53.2	-4.8*< Entercom License, LLC
250C1 Aloha	KLVP	LIC ___ OR	170.7 350.8	76.01 BLED20150929ACF	45 29 19.40 122 41 44.30	54.000 387	9.9 480	74.1	55.0	1.6 Educational Media Foundati
248D Newberg	K248BS	LIC ___ OR	186.8 6.7	90.55 BMLFT20151209AAT	45 21 16.40 122 59 26.30	0.065	61.7 486	18.9	16.9	31.4 Educational Media Foundati
248L1 Vancouver	KVNX-LP	CP ___ WA	147.4 327.7	66.35 BPL20180917ABM	45 39 36.60 122 23 39.30	0.100 30	263		17.3	21.0 Rusting Sprocket Art
247C Tacoma	KIRO-FM	LIC ___ WA	23.8 204.5	163.33 BMLH20161212ABJ	47 30 13.40 121 58 33.40	55.000 729	136.3 956	92.9	17.7	57.4 Bonnevillle International c
248L1 Vancouver	KVNX-LP	LIC ___ WA	151.7 332.0	62.99 BLL20180730AAA	45 39 51.60 122 28 11.30	0.050 -16	95		37.3	22.9 Rusting Sprocket Art
248D Portland	K248DD	LIC D___ OR	163.2 343.4	82.47 BLFT20170601ACR	45 27 11.40 122 32 51.30	0.250	13.5 371	3.3	58.3	43.7 Kphp Radio, Inc.
248C2 Lincoln Beach	KSHL	LIC N___ OR	211.2 30.4	182.21 BLH20160627AAP	44 45 23.40 124 02 57.40	7.000 259	109.0 337	43.8	60.1	93.6 Richard A. Linn
251C Seattle	KING-FM	LIC D___ WA	23.8 204.5	163.33 BMLED20110502AEJ	47 30 13.40 121 58 33.40	68.000 707	13.5 940	94.6	140.5	68.4 Classic Radio
251D Seaside	K251CD	LIC ___ OR	256.5 75.8	84.81 BLFT20161107ACM	45 58 54.40 123 55 06.50	0.250	1.1 53	7.1	71.1	77.4 Kswb Productions LLC

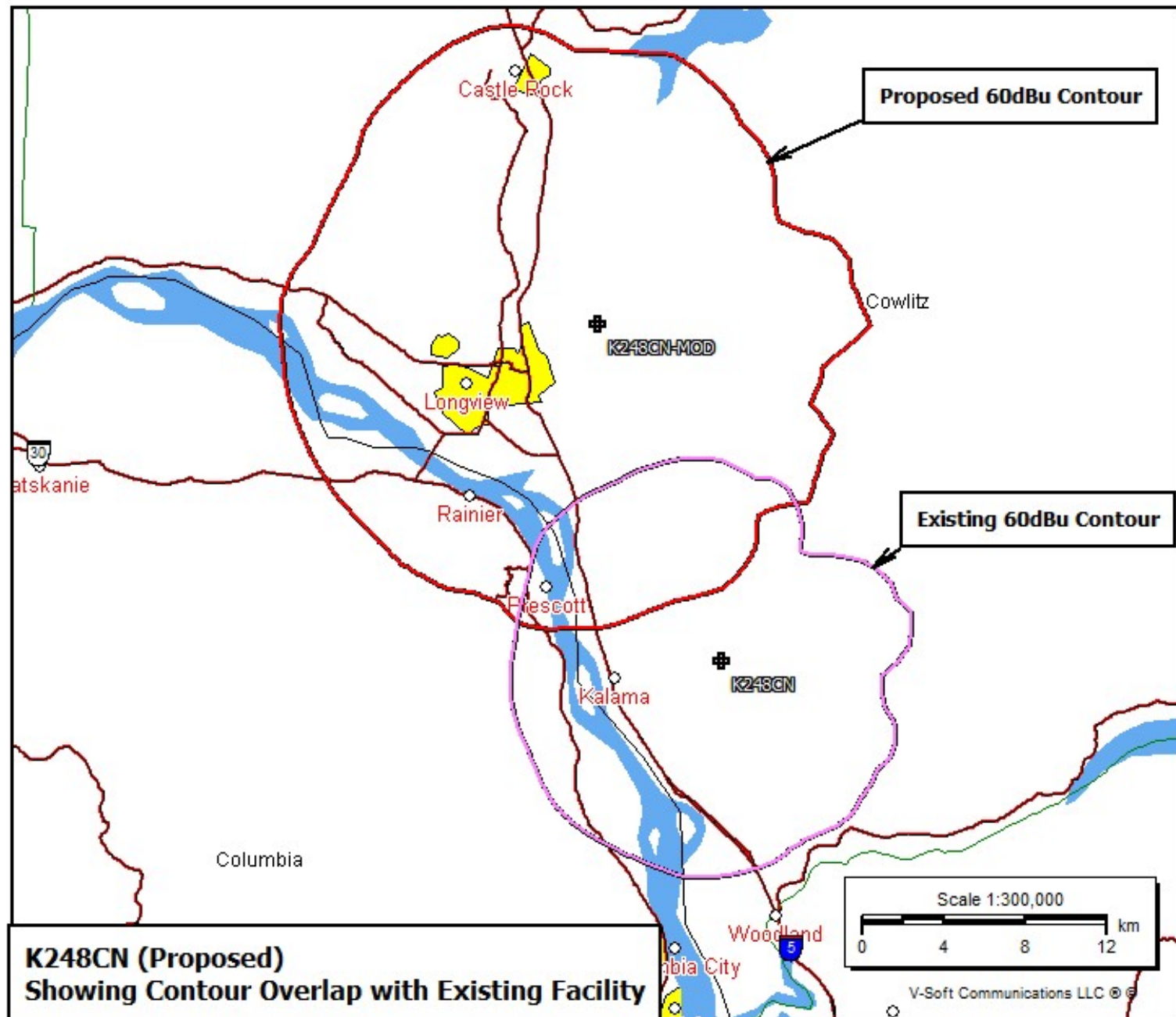
Terrain database is USGS 03 SEC , R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
Contour distances are on direct line to and from reference station. Reference zone= West Zone, Co to 3rd adjacent.  
All separation margins (if shown) include rounding.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
"\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.  
< = Contour Overlap

**Table 1, Proposed Facility Allocation Study**

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**Figure 1, Proposed Facility Interfering Contour to KYCH**



**Figure 2, Contour Overlap Between Existing and Proposed Facilities**

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