

**September 2021
KVTI(FM) Channel 215C1
Tacoma, Washington
Contingent Application Group**

Contingent Application Group

This application is being filed as part of a contingent application group, per the provisions of §73.3517(e) of the Commission's Rules. The contingent group is comprised of the following two applications:

- KACS (Facility ID 10685) is filing a Form 2100, Schedule 340 application which proposes a modification from Channel 213A to Channel 213C2 at Chehalis, with a change in transmitter site.
- KVTI (Facility ID 12068) is filing a Form 2100, Schedule 340 application which proposes no change to the KVTI Channel 215C1 technical facilities (apart from a coordinate correction to match the ASR), but which requests a *Raleigh* waiver with respect to KACS, thereby voluntarily accepting overlap from the proposed KACS 100 dBu F(50,10) contour.

The licensees of KACS and KVTI have entered into a written agreement to jointly prosecute these applications.

**September 2021
KVTI(FM) Channel 215C1
Tacoma, Washington
Allocation Study**

Allocation Study

The attached spacing study shows the co-channel and adjacent channel spacing between stations and demonstrates that the proposed operation meets the IF channel spacing requirements as prescribed in §73.207 of the Commission's Rules.

Individual stations were examined to confirm the lack of prohibited contour overlap as prescribed in §73.509 of the Commission's Rules. Since no change in the licensed KVTI technical facility is proposed (apart from a slight adjustment in coordinates to match the NAD83 coordinates specified on the Antenna Structure Registration 1034250, an adjustment amounting to no more than 0.3 seconds latitude and 0.4 seconds longitude), there will be no change in the station's protected and interfering contours.

Therefore it is not believed necessary to provide a full set of allocation study maps in this application in order to demonstrate continued compliance with §73.509, with one exception. KVTI is requesting a "Raleigh waiver" with respect to second-adjacent channel KACS, which is the subject of a simultaneously-filed contingent application. This waiver request is discussed in a separate waiver exhibit to this application.

TV Channel 6

Section 73.525 of the Commission's Rules specifies a threshold distance of 180 kilometers for FM stations operating on Channel 215. There is no domestic TV Channel 6 station located within this threshold distance.

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SEARCH PARAMETERS

Channel: 215C1 90.9 MHz
 Latitude: 47 9 38.0 (NAD83)
 Longitude: 122 34 39.0
 Safety Zone: 50 km
 Job Title: KVTI 215C1 TACOMA

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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KEXP-FM LIC	SEATTLE WA	212C3 BMLD-20071030AB	90.3	4.700 211.0	DA 47 36 57.4 122 18 32.5	21.7	54.54 -21.46	76 SHORT
KLWO LIC	LONGVIEW WA	212A BLED-20070925AGO	90.3	0.400 272.0	46 9 46.4 122 51 18.4	190.9	112.92 37.92	75 CLEAR
ALC	VICTORIA BC	213C 90.5	0.000 0.0	48 35 40.3 123 32 41.7	336.0	175.09 31.09	144 CLEAR	
KACS APP	CHEHALIS WA	213C2 0000145179	90.5	40.000 57.0	DA 46 43 50.7 123 1 33.7	215.6	58.73 -20.27	79 SHORT
KACS LIC	CHEHALIS WA	213A BMLD-20150811AG	90.5	6.000 57.0	DA 46 43 50.4 123 1 33.5	215.6	58.73 -16.27	75 SHORT
K214FI LIC	RAYMOND WA	214D BLFT-20181001AHN	90.7	0.019 0.0	46 41 43.3 123 46 21.5	240.8	104.69 0.00	0 TRANS
KSER LIC	EVERETT WA	214A BLED-19990415KA	90.7	5.800 92.0	48 1 27.4 122 6 45.5	19.8	102.20 -30.80	133 SHORT
KBOO LIC	PORTLAND OR	214C1 BLED-19910909KC	90.7	26.500 386.0	45 29 19.4 122 41 44.3	182.8	186.06 9.06	177 CLOSE
KNWR LIC	ELLENSBURG WA	214C1 BLED-19920610KA	90.7	5.000 777.0	47 15 47.4 120 23 35.2	85.2	165.88 -11.12	177 SHORT
K214EW LIC	BELLINGHAM WA	214D BLFT-20130321ADR	90.7	0.045 0.0	48 48 3.4 122 27 44.6	2.6	182.60 0.00	0 TRANS
K215DP LIC	PORT ANGELES WA	215D BMLFT-20071220AA	90.9	0.250 0.0	DA 48 6 17.3 123 20 40.7	331.6	119.77 0.00	0 TRANS
KCPB-FM LIC	WARRENTON OR	215A BLED-20100715AAE	90.9	0.240 341.0	DA 46 15 45.3 123 53 13.5	225.5	141.39 -58.61	200 SHORT
NEW ALC	VANCOUVER BC	215C1 90.9	0.000 0.0	49 21 11.4 122 57 22.7	353.6	245.42 -46.58	292 SHORT	
KVTI LIC	TACOMA WA	215C1 BLED-19910510KA	90.9	51.000 111.0	47 9 38.3 122 34 39.4	317.8	0.01 -244.99	245 SHORT

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SEARCH PARAMETERS

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K215CR LIC	THE DALLES OR	BLFT-20190320ABE	215D 90.9	0.010 0.0	45 42 43.4 121 6 53.3	144.6	196.37 0.00	0 TRANS
K215AD LIC	CHELAN, ETC. WA	BLFT-19821115IS	215D 90.9	0.075 0.0	DA 47 48 36.4 120 2 4.2	68.4	204.81 0.00	0 TRANS
KYPL LIC	YAKIMA WA	BLED-20100607AIV	216C1 91.1	26.000 242.0	46 30 47.5 120 24 7.2	112.7	180.90 3.90	177 CLOSE
K216GE LIC	FORKS WA	BLFT-20111207AMI	216D 91.1	0.130 0.0	DA 47 55 59.2 124 23 45.7	302.9	161.61 0.00	0 TRANS
K216EB LIC	HOOD RIVER OR	BLFT-20011001ALD	216D 91.1	0.010 0.0	45 42 7.4 121 32 9.3	153.4	180.81 0.00	0 TRANS
KTJC LIC	KELSO WA	BLED-20040302AAC	216C2 91.1	8.000 189.0	DA 46 19 45.3 122 57 54.4	197.9	97.04 -60.96	158 SHORT
KGHI LIC	WESTPORT WA	BLED-20150722ACR	216A 91.1	1.900 18.0	46 55 10.3 123 57 18.6	256.1	108.08 -24.92	133 SHORT
KXRY LIC	PORTLAND OR	BLED-20140224AAT	216D 91.1	0.007 85.6	45 32 25.8 122 33 54.9	179.7	180.08 0.00	0 CLS=D
KXRY APP	PORTLAND OR	0000152112	216D 91.1	0.063 -20.0	DA 45 31 1.0 122 39 37.0	182.0	182.81 0.00	0 CLS=D
KROH LIC	PORT TOWNSEND WA	BLED-20110607ABY	216C2 91.1	1.150 456.0	DA 48 0 57.3 122 55 33.6	344.8	98.65 -59.35	158 SHORT
KBCS LIC	BELLEVUE WA	BLED-20130307ABN	217C2 91.3	1.800 389.0	DA 47 32 38.4 122 6 33.4	39.4	55.40 -23.60	79 SHORT
KOSW-LP LIC	OCEAN SHORES WA	BLL-20190813ABM	217L1 91.3	0.076 35.2	46 59 3.3 124 9 13.6	261.3	121.32 48.32	73 CLEAR
CP	VICTORIA BC		217C 91.3	0.000 0.0	48 35 40.3 123 32 41.7	336.0	175.09 31.09	144 CLEAR
NEW LIC	VICTORIA BC		217C 91.3	3.500 494.0	48 35 40.3 123 32 41.7	336.0	175.09 31.09	144 CLEAR

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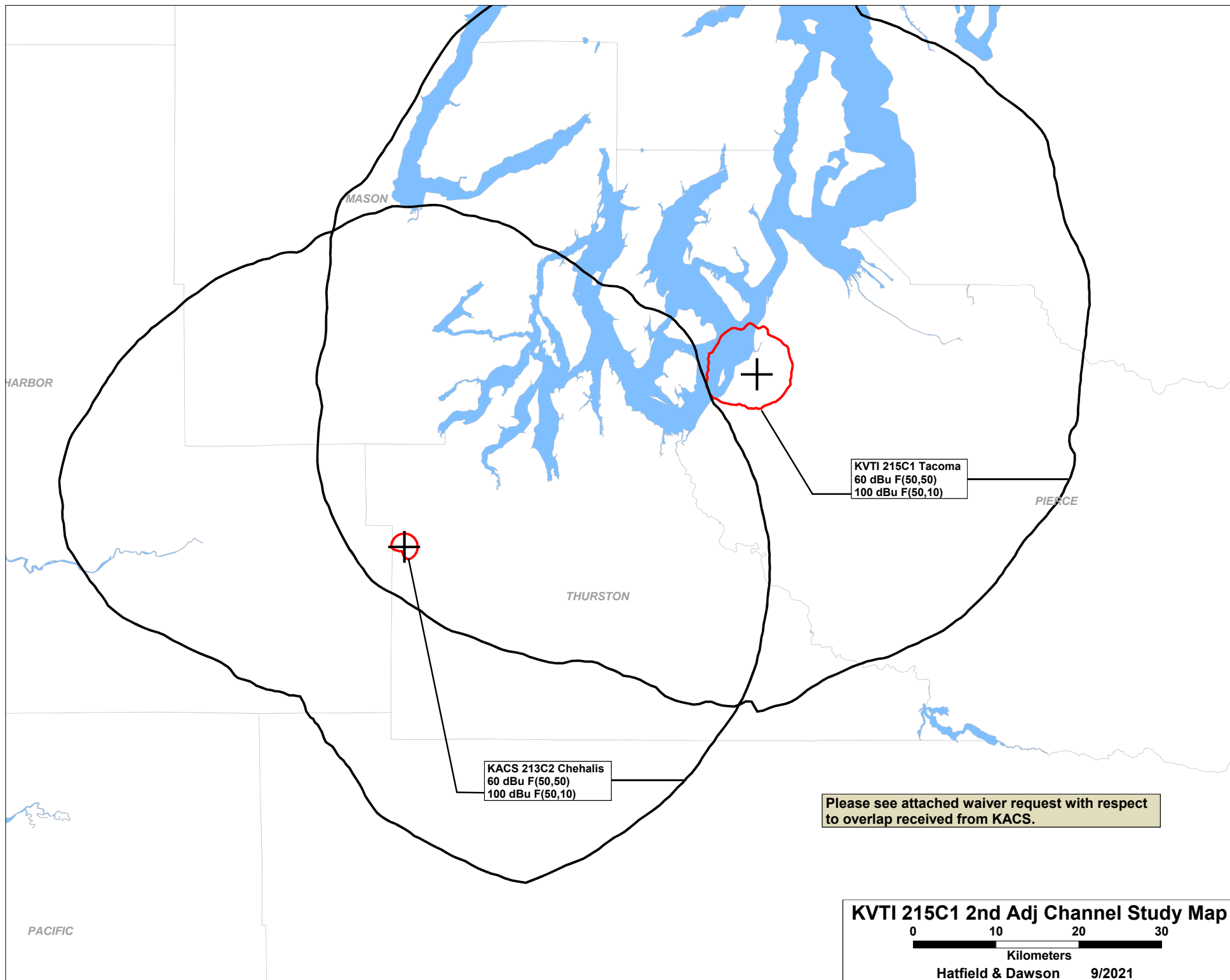
SEARCH PARAMETERS

Channel: 215C1 90.9 MHz
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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KCED LIC	CENTRALIA WA	BLED-19900515KA	217A 91.3	1.000 -22.0	46 42 55.3 122 57 52.4	210.8	57.60 -17.40	75 SHORT
CP	VICTORIA BC		217C 91.3	0.000 0.0	48 35 40.3 123 32 41.7	336.0	175.09 31.09	144 CLEAR
KACW LIC	SOUTH BEND WA	BLED-20120425ADR	217A 91.3	0.225 271.0	DA 46 41 43.4 123 46 21.6	240.8	104.69 29.69	75 CLEAR
KSQM LIC	SEQUIM WA	BLED-20151112XON	218A 91.5	2.050 -62.0	DA 48 5 0.3 123 16 1.6	333.5	114.96 39.96	75 CLEAR
K218CU LIC	DELPHI WA	BLFT-20140110AAA	218D 91.5	0.010 0.0	DA 46 58 21.3 123 8 21.5	244.0	47.52 0.00	0 TRANS
KQXI LIC	GRANITE FALLS WA	BLED-20150608AA	218A 91.5	1.600 -92.0	DA 48 5 10.4 121 57 54.5	23.8	112.74 37.74	75 CLEAR
KPLZ-FM LIC	SEATTLE WA	BLH-20121220AAY	268C0 101.5	100.000 372.0	47 32 39.4 122 6 32.4	39.4	55.43 18.43	37 CLEAR
K269FS LIC	CENTRALIA WA	BLFT-20120224ABS	269D 101.7	0.205 0.0	46 40 7.4 122 57 54.5	208.4	62.14 0.00	0 TRANS

===== END OF FM SPACING STUDY FOR CHANNEL 215 =====



**September 2021
KVTI(FM) Channel 215C1
Tacoma, Washington
“Raleigh Waiver” Requested
for Received Second Adjacent Channel Overlap**

The instant KVTI construction permit application is being filed by Clover Park Technical College (“CPTC”) as part of a contingent application group, along with a construction permit application for modification of KACS on Channel 213C2 at Chehalis. As a result of these applications, the proposed KVTI facility’s 60 dBu F(50,50) contour would encompass the 100 dBu F(50,10) contour of the proposed KACS facility. Waiver of §73.509 of the Commission’s Rules is respectfully requested under the precedent established in *Educational Information Corporation*, also commonly referred to as a “Raleigh waiver”.

This proposal will not cause overlap to KACS as the proposed 100 dBu F(50,10) interfering contour of KVTI will not overlap that station’s 60 dBu F(50,50) protected contour.¹

The 60 dBu contour from the proposed KVTI facility encompasses an area of 6,632 sq km and a population of 2,056,531 persons per the 2020 Census (using the block centroid method). The following tables list the area and populations within the proposed KVTI 60 dBu contour which will receive overlap from the KACS 100 dBu F(50,10) contour.

Area and Population in Received Overlap Area from KACS	Percentage of Proposed KVTI 60 dBu Area and Population
7 sq km 0 persons	0.1% area 0.0% population

Notably, the entire KACS 100 dBu contour area is unpopulated, falling over the Capitol State Forest. Furthermore, no overlap, and thus no interference, will occur within the boundaries of the KVTI community of license, Tacoma.

In *Educational Information Corporation*, Memorandum Opinion and Order, 6 FCC Rcd 2207 (1991), the Commission noted that it would be inclined to grant waivers of second- or third-adjacent

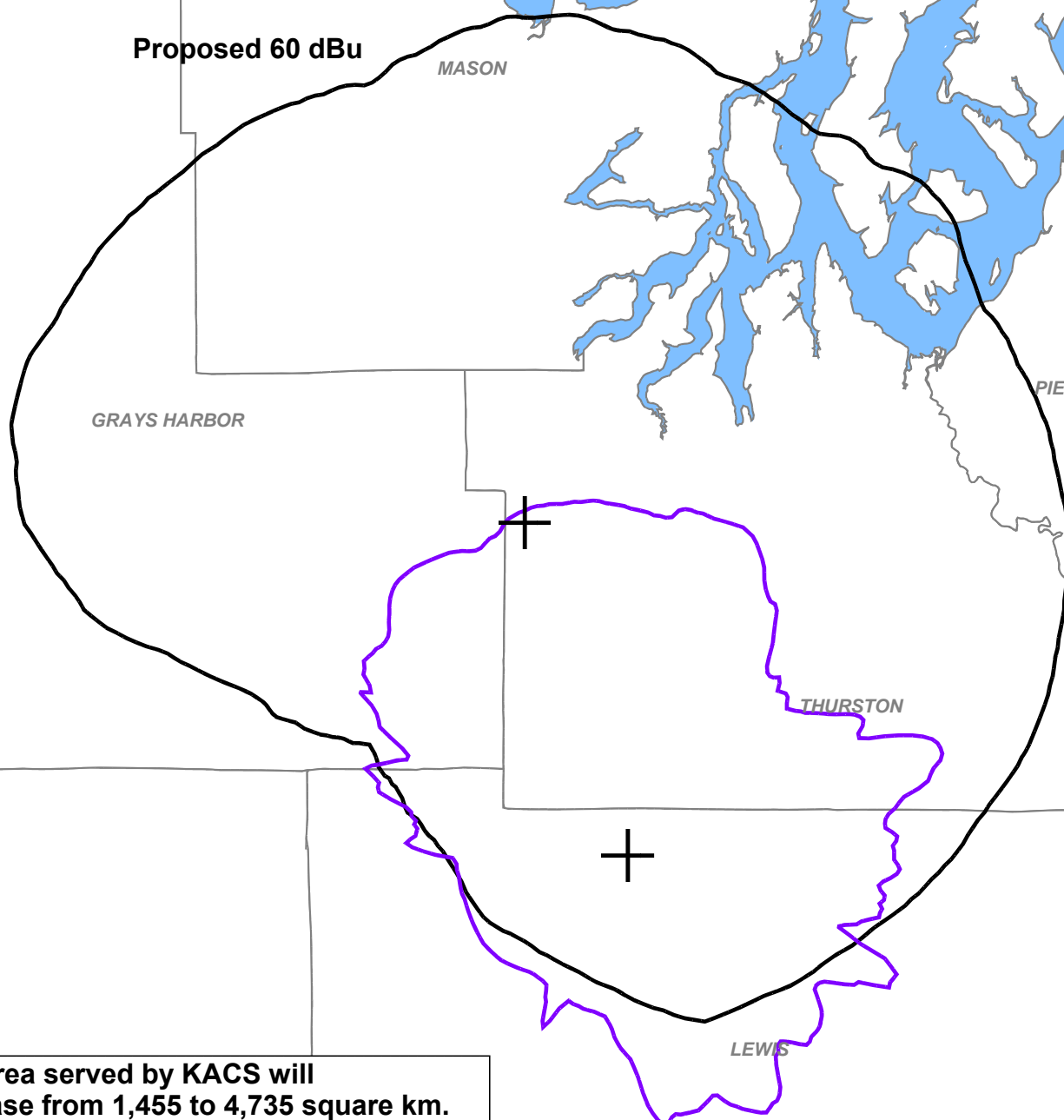
¹ However, KACS is separately requesting a Raleigh waiver with respect to stations KPLI and KGHP.

channel overlap in circumstances where the benefit of increased non-commercial service heavily outweighs the potential for interference in very small areas. "...the Commission has given the staff delegated authority to act on waivers of received overlap of up to 10 percent where sufficient justification is provided." *Educational Information Corporation* at 7. "The Commission has long recognized the unique characteristics of the noncommercial service and the need for flexibility to respond to the growing demand for such service. We are also more sensitive today to the increasing limitations within the reserved band which reflect the increased demand for service over the last 30 years. For these reasons, we are now inclined to grant waivers of second or third adjacent channel overlap in circumstances such as WCPE's, where the benefit of increased noncommercial educational service so heavily outweighs the potential for interference in very small areas." *Educational Information Corporation* at 10.

CPTC hereby submits that the circumstances of the instant case are functionally equivalent to those in *Educational Information Corporation*, and respectfully requests a waiver of §73.509 of the Commission's Rules to permit the grant of the KVTI and KACS applications. While grant of this waiver to KVTI does not result in expansion of the KVTI service area, the contingent application group should be reviewed as a whole. The grant of this waiver request will allow KACS to increase its 60 dBu service area by 225% (from 1,455 sq km to 4,735 sq km) and its 60 dBu service population by 406% (from 80,666 persons to 408,552 persons). This represents a significant increase in non-commercial service to the area, justifying grant of the requested waiver.

CPTC acknowledges that future modifications proposed by the licensee of KACS will not be construed as a *per se* modification of the KVTI license.

Proposed 60 dBu



The area served by KACS will increase from 1,455 to 4,735 square km.

The population served by KACS will increase from 80,666 to 408,552 persons.

Licensed 60 dBu

KACS 213C2 Chehalis Contour Comparison



Kilometers

Hatfield & Dawson

9/2021

**September 2021
KVTI(FM) Channel 215C1
Tacoma, Washington
RF Exposure Study**

Facilities Proposed

Continued operation is proposed on Channel 215C1 (90.9 MHz) with an effective radiated power of 51 kilowatts. Operation is proposed with the existing 4-element circularly-polarized omni-directional antenna, which is installed on the existing tower with FCC Antenna Structure Registration Number 1034250.

RF Exposure Calculations

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

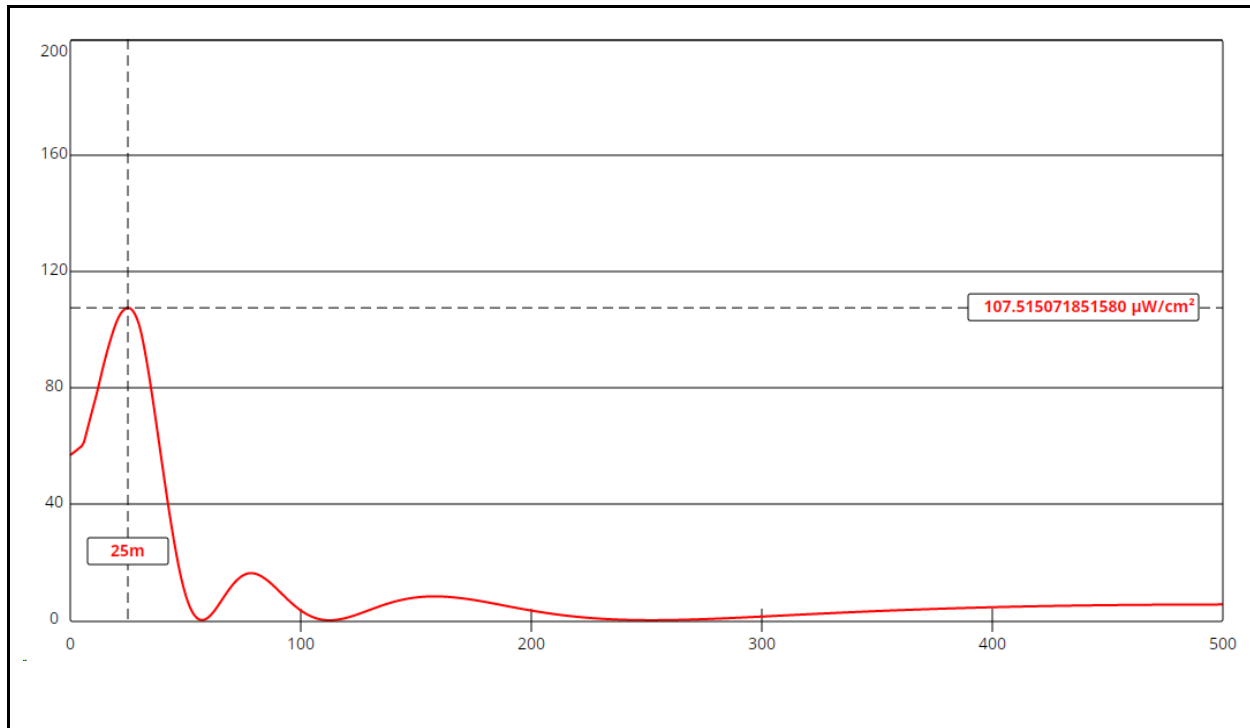
Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 500 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the KVTI antenna system assume a Type 2 element pattern, which is the element pattern for the Jampro model JSCP-4 antenna which is in use. The highest calculated ground level power density occurs at a distance of 25 meters from the base of the antenna support structure. At this point the power density is calculated to be 107.5 $\mu W/cm^2$, which is 10.8% of 1000 $\mu W/cm^2$ (the FCC standard for controlled environments) and 53.8% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.



Ground-Level RF Exposure

OET FMModel

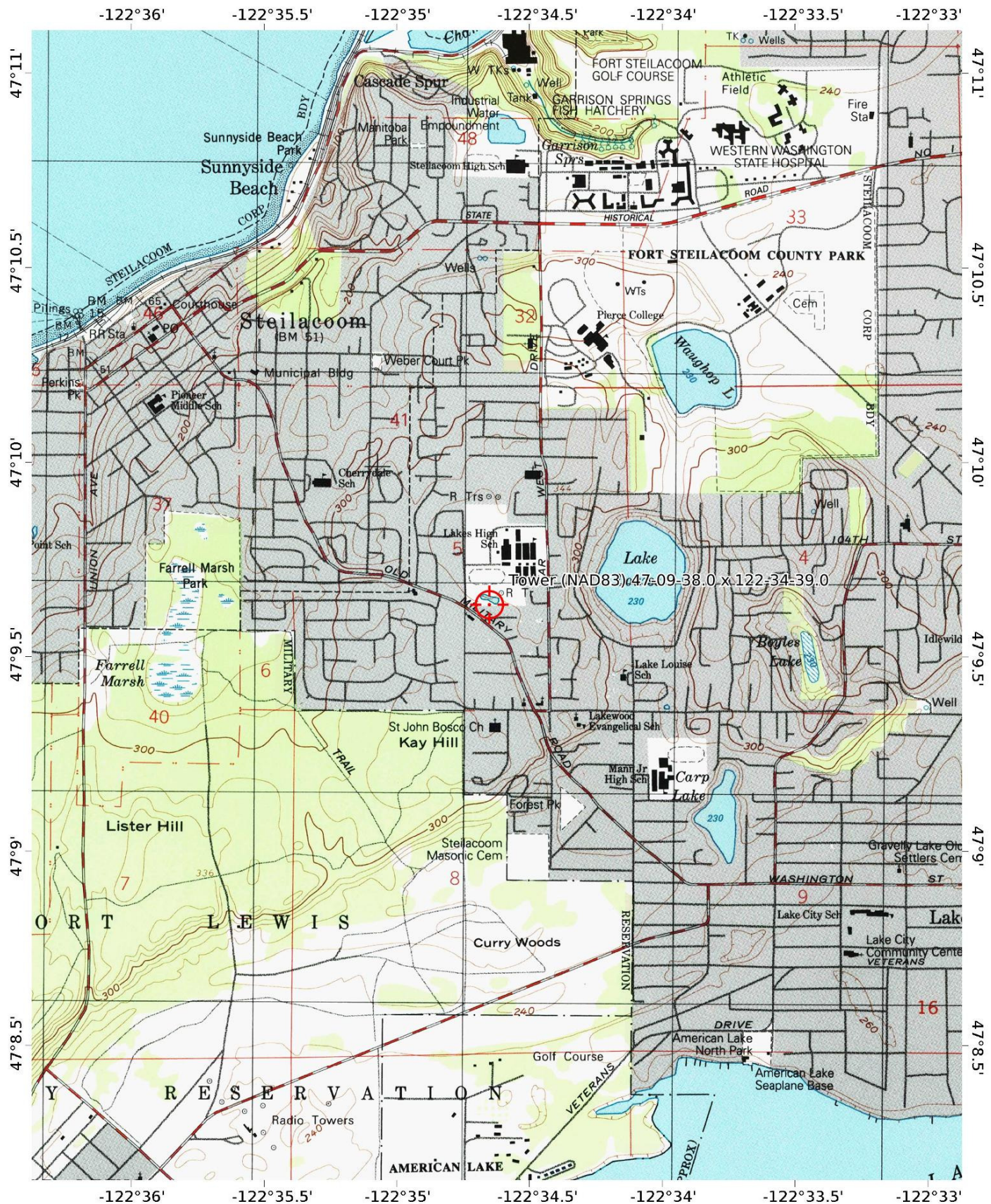
KVTI 215C1 Tacoma

Antenna Type: Jampro JSCP-4 (Type 2)
No. of Elements: 4
Element Spacing: 1.0 wavelength

Distance: 500 meters
Horizontal ERP: 51 kW
Vertical ERP: 51 kW

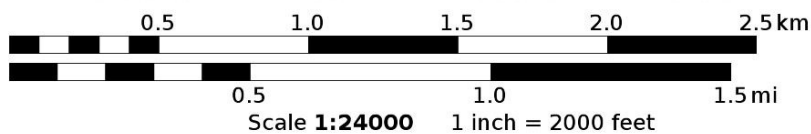
Antenna Height: 67 meters AGL

Maximum Calculated Power Density is 107.5 $\mu\text{W}/\text{cm}^2$ at 25 meters from the antenna structure.



Mercator Projection
WGS84

USNG Zone 10TET



Hatfield & Dawson Consulting Engineers

