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## ENGINEERING REPORT

APPLICATION for a  
NEW ANTENNA SITE

KYOZ-AM  
1330 kHz  
Spokane, Washington

Facility ID 65985

5 kW Day 23 Watts Night

Radio Station KMJY, LLC

January 2017

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## Purpose of Application

This Engineering Report is part of an application by Radio Station KMJY, LLC ("KMJY") for a Construction Permit to relocate the transmitter site of KYOZ-AM, Spokane, Washington. (Facility ID 65985). The recent purchase of KYOZ by KMJY did not include continued use of the licensed KYOZ antenna site, which must therefore be vacated. Dplxed operation on the #2 (south) tower of the KTTO(AM) array is proposed. The KTTO array is located 1.4 km northwest of the presently licensed KYOZ antenna.

## Allocation Considerations

### Daytime

The proposed 5 kW daytime operation of KYOZ will not cause prohibited contour overlap with any other licensed or proposed facility, as demonstrated by the daytime allocation study maps included with this engineering report. This study does not include a 3<sup>rd</sup>-adjacent channel map, as there are no such facilities close enough to Spokane to justify consideration. The proposed 5 mV/m contour of KYOZ will cover 100% of Spokane. All calculations and exhibits contained in this application are based on M3 ground conductivity data.

### Nighttime

The proposed 23 Watt nighttime operation of KYOZ will not enter into the 25% RSS of any licensed or proposed facility. The following page contains site to site RSS calculations for co-channel station KKPZ, Portland OR. KKPZ is the only facility for which KYOZ will exceed the 10% RSS threshold.

## Site to Site RSS Calculations

Call: KKPZ  
 Freq: 1330 kHz  
 PORTLAND, OR, US  
 Hours: U  
 Lat: 45-27-13 N  
 Lng: 122-32-45 W  
 Power: 5.0 kW  
 Theo RMS: 846.51 mV/m @ 1km @ 5.0 kW  
 # of Augmentations: 2

Standard: FCC Rules (1992 Skywave Propagation Model) [ 10% ]

Contributors:

Call	Freq (kHz)	City	St	Ct	Dist (km)	Azi (deg)	Theta		Max	SW	Limit (mV/m)	Limit (%)	RSS
							Min (deg)	Max (deg)	V-Rad (mV/m)	Mult (uV/m)			Limit (mV/m)
KWKW	1330	LOS ANGELES	CA	US	1320.5	345.5	3.2	7.3	365.23	27.32	1.996	100.0	1.996
KNSS	1330	WICHITA	KS	US	2261.0	300.4	0.0	0.9	1215.14	7.96	1.934	96.9	2.779
KPTY	1330	WATERLOO	IA	US	2431.2	288.3	0.0	0.1	1334.34	5.33	1.422	51.2	3.122
KUOW	1340	TUMWATER	WA	US	175.1	170.4	39.0	53.4	206.75	315.41	1.304	41.8	3.383
KLOO	1340	CORVALLIS	OR	US	109.5	28.9	52.5	65.1	158.44	395.42	1.253	37.0	3.608
KWFM	1330	SOUTH TUCSON	AZ	US	1773.7	328.8	0.6	3.7	380.40	16.04	1.221	33.8	3.809
KBBR	1340	NORTH BEND	OR	US	260.5	29.8	28.3	41.9	256.37	237.58	1.218	32.0	3.999
KGAK	1330	GALLUP	NM	US	1601.1	317.7	1.5	4.9	320.14	18.17	1.163	29.1	4.165
KYSP	1340	WENATCHEE	WA	US	277.5	219.7	26.8	40.1	262.20	216.77	1.137	27.3	4.317
KJOX	1340	KENNEWICK	WA	US	273.9	253.0	27.1	40.5	256.71	221.33	1.136	26.3	4.464
<b>KYOZ-PRO1330</b>	<b>1330</b>	<b>SPOKANE</b>	<b>WA</b>	<b>US</b>	<b>463.3</b>	<b>240.7</b>	<b>16.2</b>	<b>26.2</b>	<b>47.21</b>	<b>117.54</b>	<b>1.110</b>	<b>24.9</b>	<b>4.600</b>
KXXJ	1330	JUNEAU	AK	US	1639.8	145.4	1.3	4.6	575.99	9.56	1.102	23.9	4.730
KIHR	1340	HOOD RIVER	OR	US	83.4	251.0	59.7	70.6	127.62	422.20	1.078	22.8	4.851
KWLE	1340	ANACORTES	WA	US	338.2	179.2	22.3	34.5	275.76	174.54	0.963	19.8	4.946
KOVE	1330	LANDER	WY	US	1137.0	289.5	4.7	9.3	156.06	29.42	0.918	18.6	5.030
KBNW	1340	BEND	OR	US	182.4	327.3	37.9	52.2	146.15	311.40	0.910	18.1	5.112

Hatfield & Dawson Consulting Engineers

## Facilities Proposed

KMJY proposes diplexed operation with KTTO(AM), using the presently licensed #2 (south) tower of the KTTO array. No new tower construction or modification is required. The ASR number for this tower is 1055023. The ground system consists of 120 equally spaced copper radials between 100 and 300 feet in length around the base of each tower.

## Blanketing Contour

The area within the proposed 1 V/m contour has a population of 1,942 persons, which is 1.02% of the population within the 25 mV/m contour (185,102). Waiver of §73.24(g) is respectfully requested. All persons within the proposed blanketing contour of KYOZ are already within the blanketing contour of KTTO.

## Main Studio

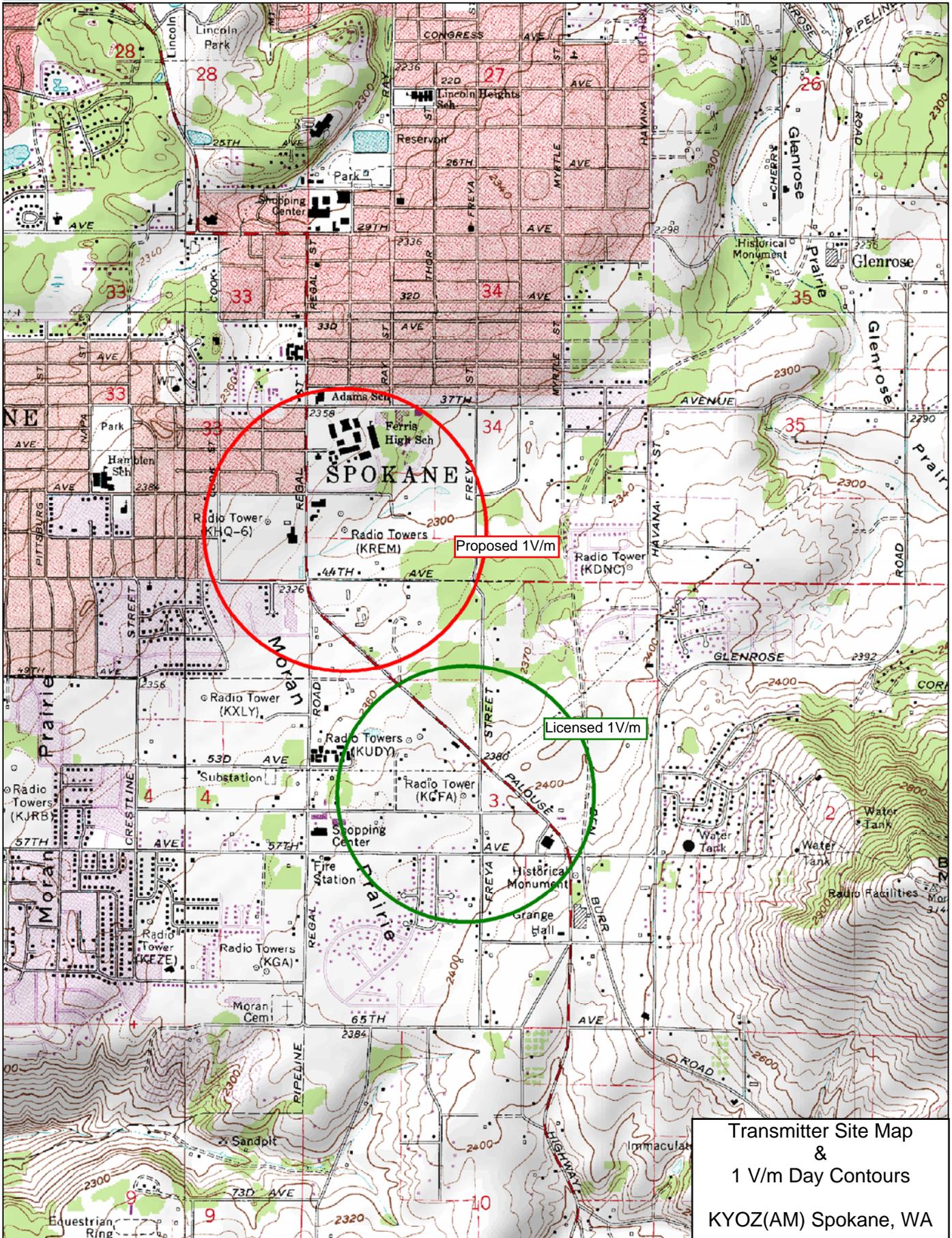
The KYOZ studios are located at 4407 N. Division Street, Suite 625 which is within the corporate city limits of Spokane.

## Antenna Tower Access

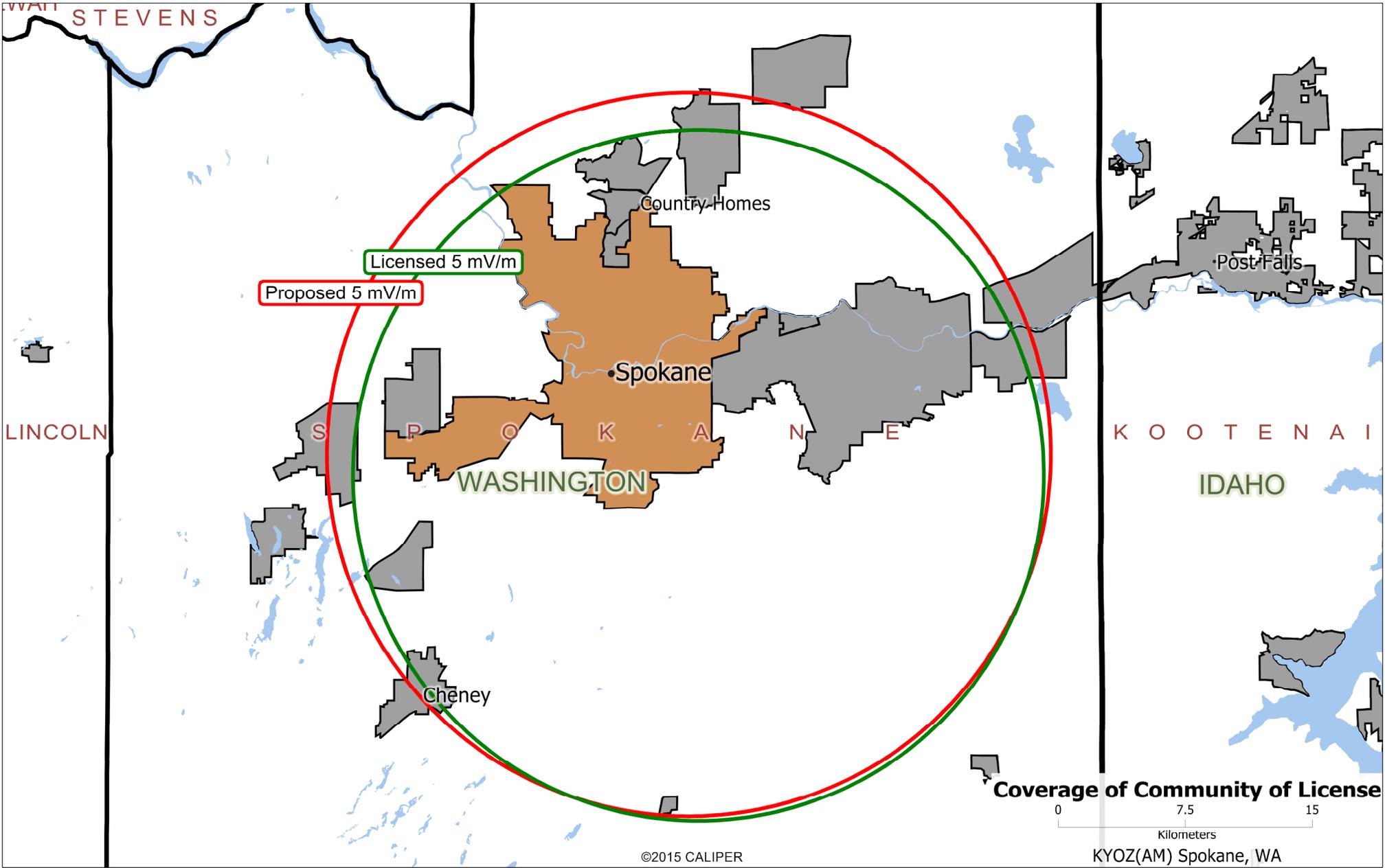
Antenna tower access is restricted by a fence with a locked gate that is least 2 meters from the antenna base, as required by OET-65. The antenna is posted with warning signs, and all station personnel and contractors will be required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken.

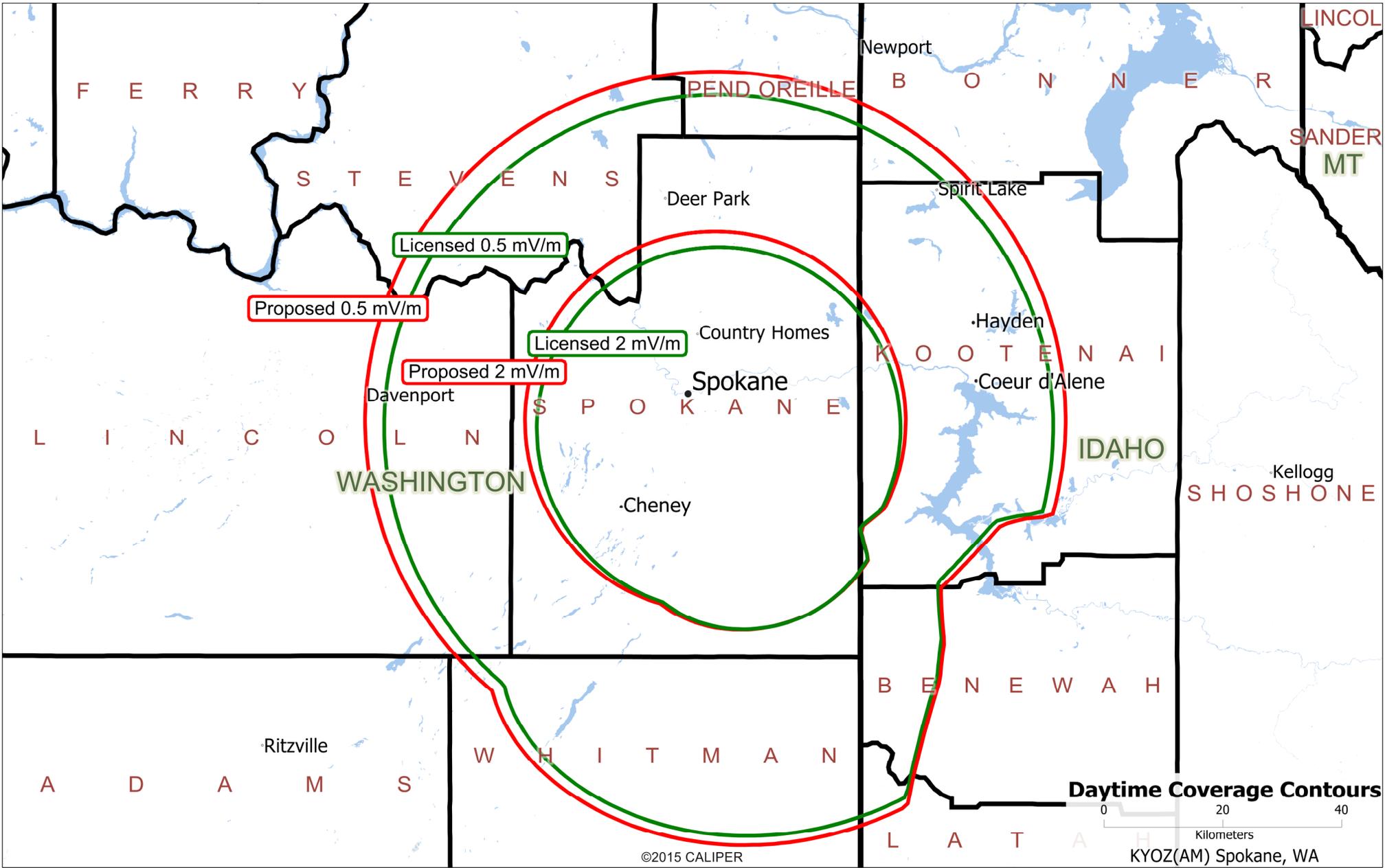


Proposed Transmitter Site



Transmitter Site Map  
&  
1 V/m Day Contours  
KYOZ(AM) Spokane, WA





**Daytime Coverage Contours**

0 20 40  
Kilometers

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KYOZ(AM) Spokane, WA

KYOZ

Freq: 1330 kHz

Class: D

Latitude: 47-36-57 N

Longitude: 117-21-55 W

Power: 5 kW

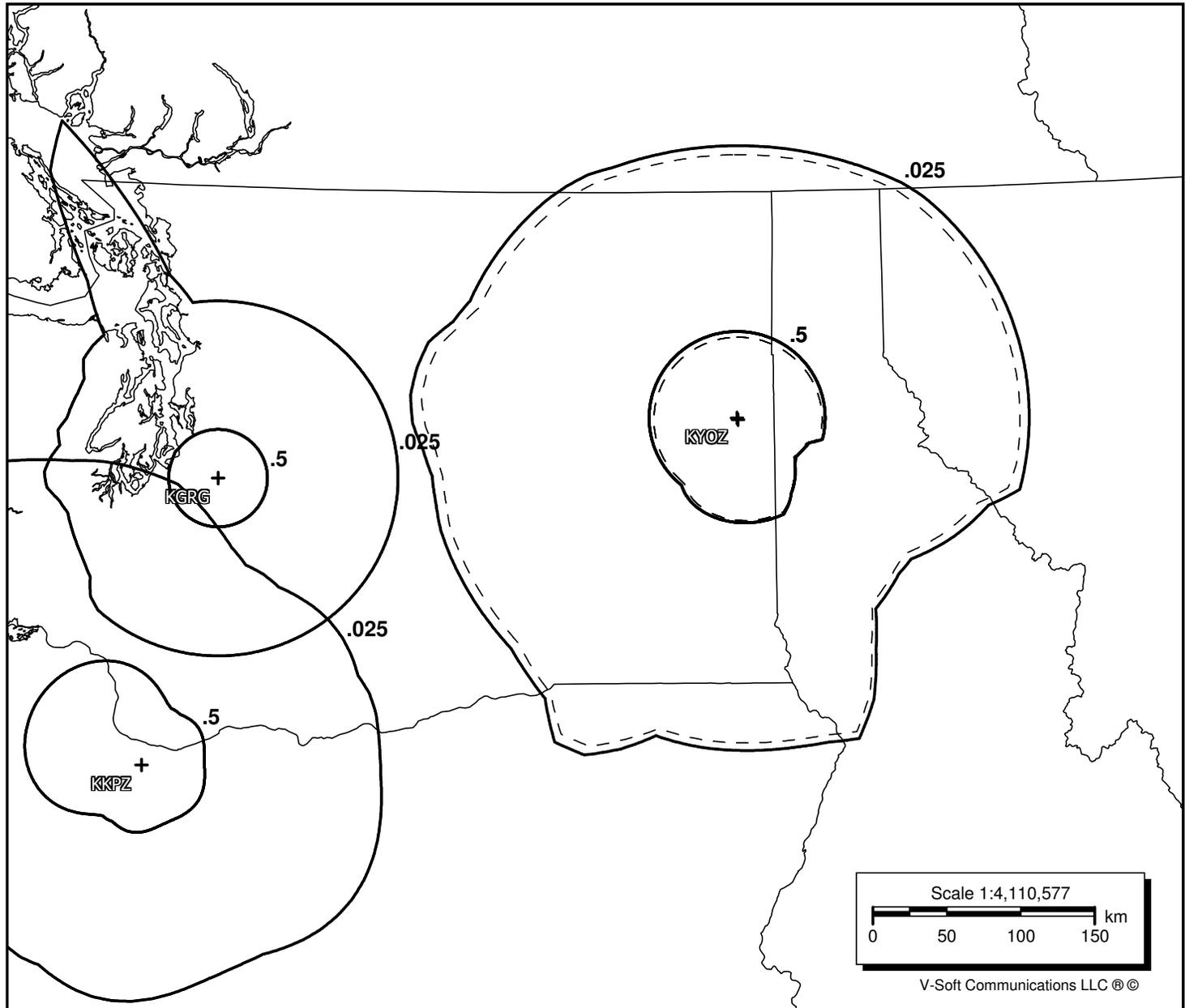
RMS: 344.578 mV/m @1km

# Towers: 1

# Augs: 0

Daytime Co-Channel  
Allocation Study

Dashed lines are  
Licensed Contours



Scale 1:4,110,577

0 50 100 150 km

V-Soft Communications LLC ©

**KYOZ**

Freq: 1330 kHz

Class: D

Latitude: 47-36-57 N

Longitude: 117-21-55 W

Power: 5 kW

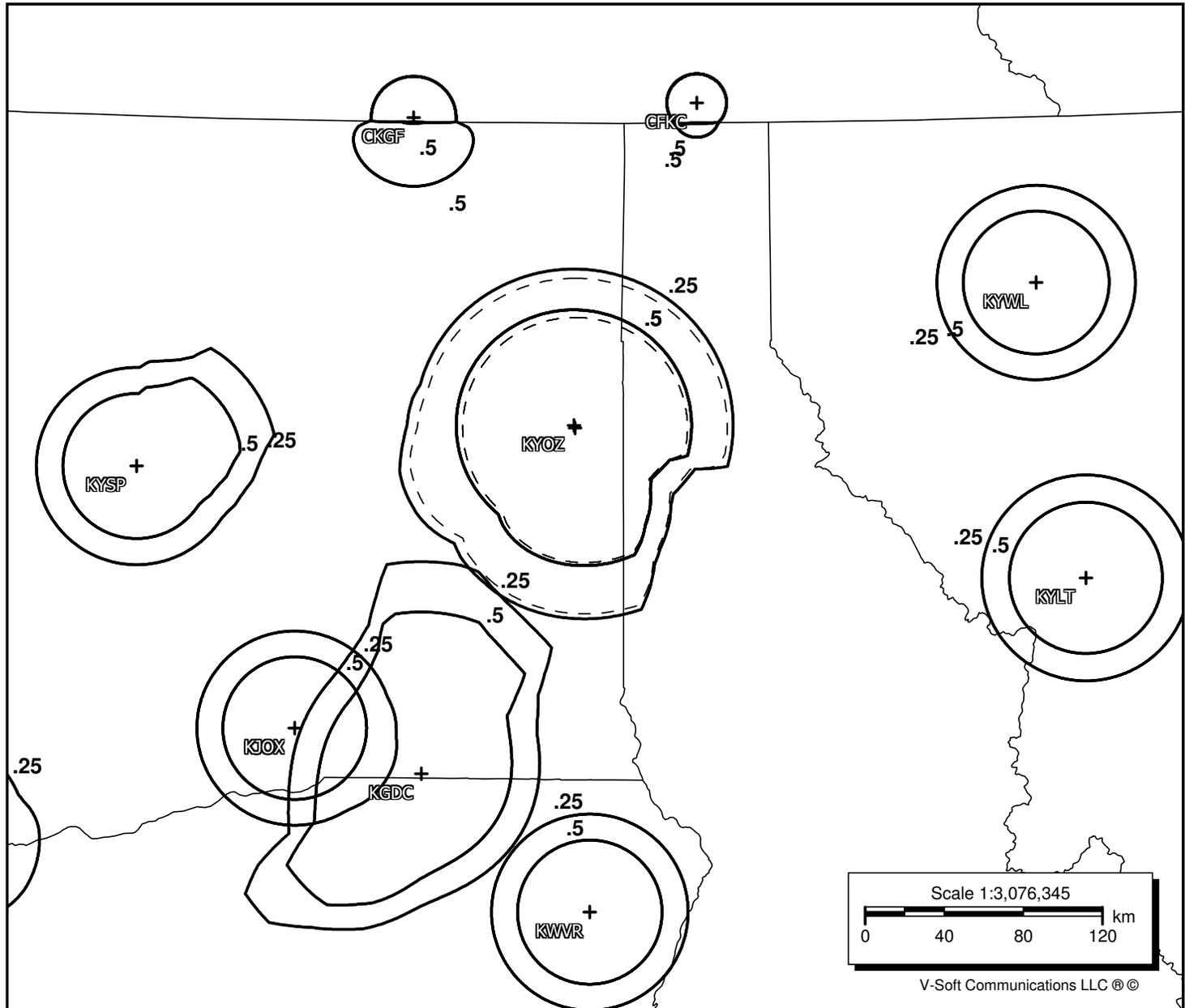
RMS: 344.578 mV/m @1km

# Towers: 1

# Augs: 0

Daytime  
1st-adjacent Channel  
Allocation Study

Dashed lines are  
Licensed Contours



KYOZ

Freq: 1330 kHz

Class: D

Latitude: 47-36-57 N

Longitude: 117-21-55 W

Power: 5 kW

RMS: 344.578 mV/m @1km

# Towers: 1

# Augs: 0

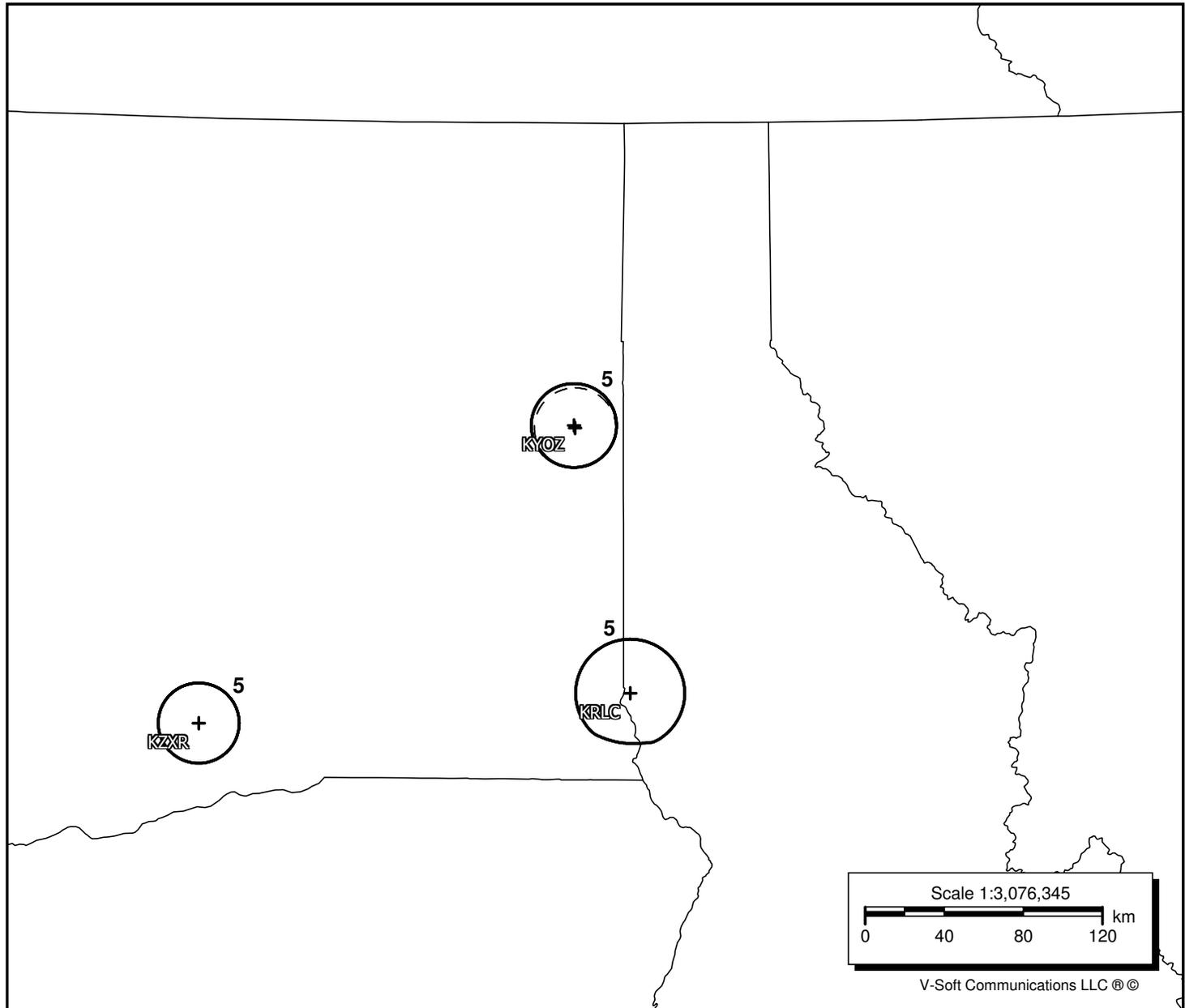
Daytime

2nd-adjacent Channel

Allocation Study

Dashed lines are

Licensed Contours



Scale 1:3,076,345

0 40 80 120 km

V-Soft Communications LLC ©

## Statement of Engineer

This Engineering Report, relative to application for a new transmitter site for KYOZ-AM, Spokane, WA, has been prepared by the undersigned. All representations contained herein are true to the best of my knowledge. I am an experienced radio engineer whose qualifications are a matter of record with the Federal Communications Commission. I am an engineer in the firm of Hatfield and Dawson Consulting Engineers and am Registered as a Professional Engineer in the States of Washington and Oregon.

Signed this 17th day of January 2017



Thomas S. Gorton, P.E.