

JOB	110003
CITY OF LICENSE	Tacoma, WA
CALL LETTERS	KXOT
FACILITY ID	62470
PREPARED FOR	PRC Tacoma - ILLC
VERSION	3.0

# **CONSOLIDATED**

# **ENGINEERING EXHIBIT**

FCC Form 340 - Section VII - FM Engineering

# **ENGINEERING STATEMENT**

## **PROPOSED MINOR-CHANGE TO KXOT, TACOMA, WA**

### **OVERVIEW:**

PRC Tacoma – I LLC (“PRCT”) hereby submits this proposal for a minor-change to licensed noncommercial station KXOT, Tacoma, WA. The application proposes to modify the site, antenna height, antenna pattern, class, and ERP of the station.

As shown by the attached **Exhibit 14**, the entire community of license is covered by the proposed 60dBu contour. A significant portion of the licensed 60dBu contour overlaps the proposed 60dBu contour, qualifying this proposal as a minor-change.

### **SECOND ADJACENT WAIVER REQUEST:**

As shown by the attached **Exhibits 16 through 16g**, this proposal meets the contour overlap requirements of §73.509 with respect to all other reserved-band stations except second-adjacent station KBCS, Bellevue, WA. A minor-change application to move KBCS to a site 5.39km SE of its current licensed site is being filed concurrently with this instant application. The proposed modifications of KBCS and KXOT will result in a small area of *overlap-received* to KXOT from KBCS, i.e., as explained in more detail below, the proposed 100dBu interfering contour of KBCS would overlap the proposed 60dBu contour of KXOT over a small area. PRCT requests a waiver of §73.509 to permit such overlap.

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- The population within the proposed FCC 60dBu contour of KXOT would be increased by 360,144 - from 2,095,639, to 2,455,783.<sup>1</sup>
- The proposed 60dBu service area of KOXT would be increased to encompass 8019km<sup>2</sup>.
- The proposed area of 100dBu overlap-received from the proposed KBCS interfering contour would be 19.3km<sup>2</sup>, or 0.24% of the total proposed service area of KXOT.
- The population in the area of 100dBu overlap-received from KBCS would be 9,901, or 0.4% of the total proposed population to be served by KXOT.
- The total increase in population to be served by KXOT would outweigh the population within the 100dBu overlap area by a 45-to-1 margin.
- The new overlap received area is comparable to the existing area of 100dBu overlap-received by KXOT from the licensed facilities of KBCS - 22.3km<sup>2</sup>. This overlap area constitutes 0.28% of the total proposed service area of KXOT.

The concurrent minor-change applications by KXOT and KBCS are a win-win for both stations and for the noncommercial services they provide. The gains for KXOT are set forth above. In addition, the proposed modification of KBCS would increase its 60dBu coverage from 1,573,337 to 2,145,681 persons - adding nearly 600-thousand potential new listeners. Neither modification would result in overlap *caused* to the other station.

There would be overlap-received to the proposed KBCS facilities from the currently-licensed facilities of KXOT; however the proposed KXOT modification would eliminate such

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<sup>1</sup>Due to favorable terrain from the high-elevation proposed site, and very rugged and unfavorable terrain from the current licensed site, the “real-world” improvement in usable coverage is expected to be greater than what may be predicted by the FCC contour method.

overlap. The KBCS application and the KXOT application should therefore be considered together, as mutually contingent.

The Commission has granted such waivers of §73.509 in similar circumstances. For example, in *Education Information Corp.*, 6 FCC Rcd 2207 (1992), the Commission granted waivers which allowed WCPE(FM) to receive second adjacent channel overlap for 0.84% of its service area. In that case, the Commission announced that: “[W]e are now inclined to grant waivers of second or third adjacent channel overlap in circumstances ... where the benefit of increased noncommercial educational service so heavily outweighs the potential for interference in very small areas.” Id. at 2208. In this instant case, the benefit of adding more than 360,000 potential listeners to KXOT and nearly 600,000 listeners to KCBS heavily outweighs the potential for interference to 9,901 people in an area of 19.3 km<sup>2</sup>. The grant of a waiver to permit the received overlap to KXOT is therefore in the public interest and within the scope of the Commission’s waiver policy.

#### **DIRECTIONAL ANTENNA ISSUES:**

Compliance with §73.316(b)(2) has been interpreted, in recent years, to require directional antennas that do not exceed 2db change per 10 degrees of azimuth, *in arcs that require directional antenna protection to prevent prohibited overlaps*. Directional antennas which exceed 2db/10dg have been approved when they were employed to enhance coverage, not to protect other stations.

To determine the “arc-of-protection” in this application, all protected and interfering contours were plotted, using a non-directional antenna for KXOT - for test purposes only. Using this “test” antenna, it was determined that the KXOT 40dBu interfering contour would overlap the protected 60dBu contour of KSVR (between 11 and 29 degrees true from the KXOT site),

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and the KXOT 54dBu interfering contour would overlap with four other stations. Overall, the arc-of-protection was determined to extend (clockwise) from 325 to 53 degrees, true.

Directional antenna transitions exceeding 2db/10 degrees outside this range are permissible. No other arcs-of -protection were found.

**Exhibit E-1** shows this arc-of-protection. **Exhibit E-2** shows a plot of the directional antenna, in which an allowable transition in excess of 2dB is proposed between the 55 and 60 degree azimuths. All other radial transitions would meet the normal 2db/10dg standard.

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# Exhibit E-1 - Arc of Protection Determination

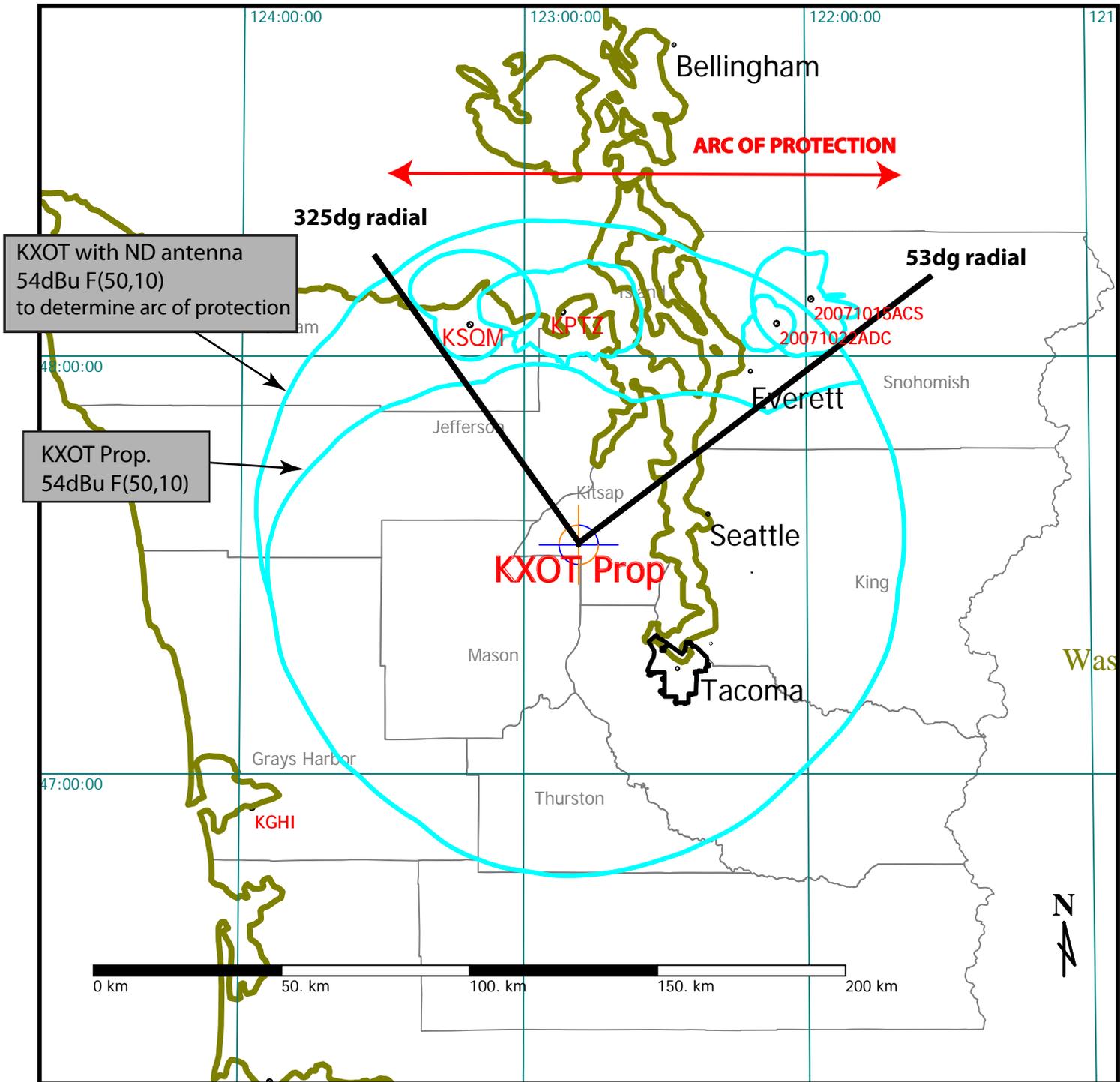
Brown Broadcast Services, Inc.  
 Job: KXOT at Gold Mt Final.fmj  
 Master Database: 2010\_May\_22.fmd  
 Lat: N47:32:53 Lon: W122:48:23 NAD-27  
 Scale: 1:1500000  
 Channel: 219 Class: C1

rfInvestigator Version 3.4.10  
 by rfSoftware, Inc.  
 Date: 5/31/2010 2:10:44 PM  
 Key:

- City Grade
- Protected
- Co-Channel
- 1st Adj
- 2nd/3rd Adj

The 325 to 53 degree arc represents the only zone in which contour protection requires using a directional antenna with less than 1.000 relative field.

KSQM, KPTZ, 20071015ACS, and 20071022ADC were drawn using their 60dBu F(50.50) protected contours.

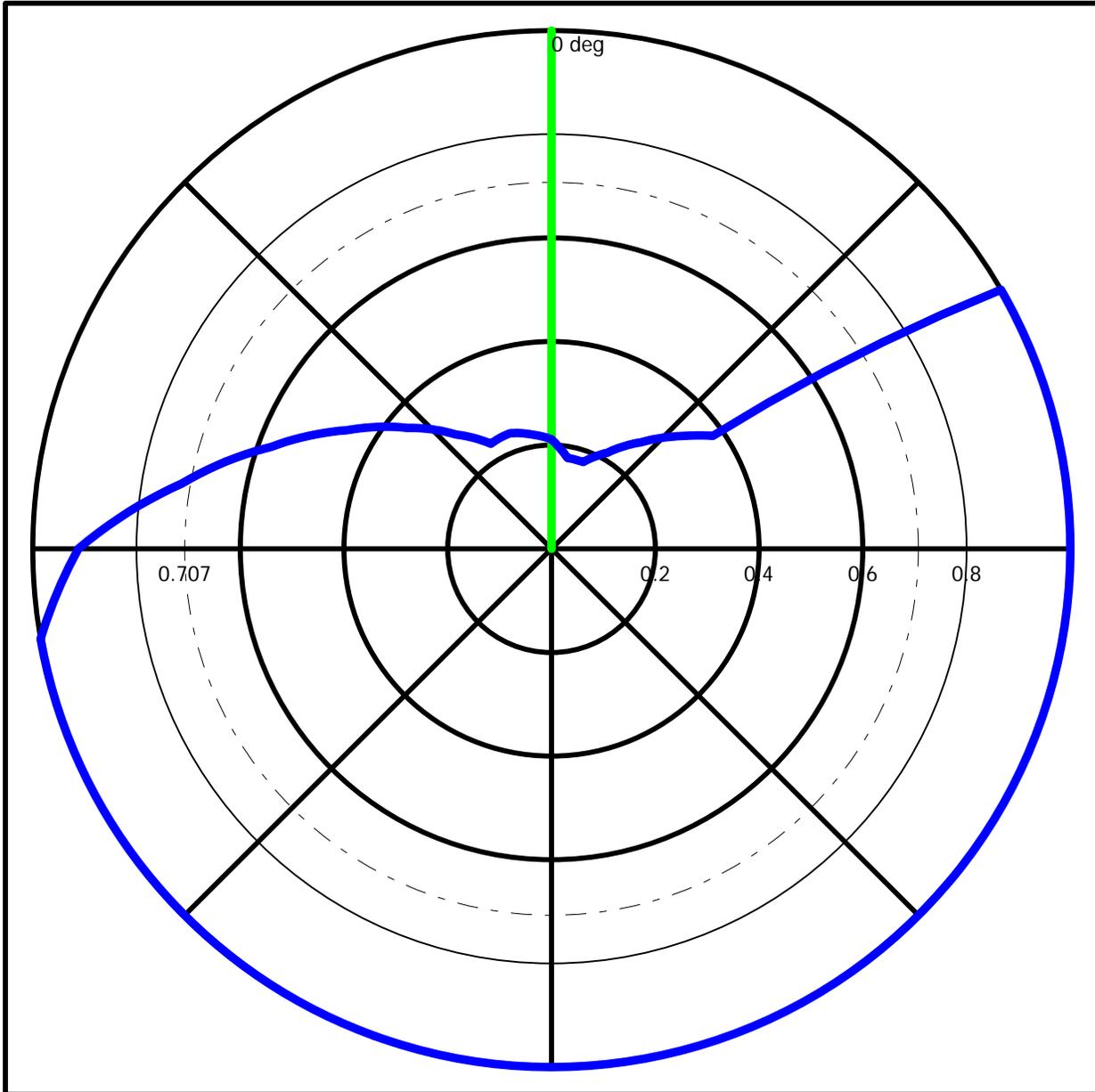


## Exhibit E-2 - Directional Antenna Pattern

### Brown Broadcast Services, Inc.

Job: KXOT at Gold Mt Final.fmj  
 Description:

rfInvestigator Version 3.4.10  
 Pattern RMS = 0.805  
 Date: 5/26/2010 12:32:48 AM



Degree	Field										
000	0.211	060	1.000	120	1.000	180	1.000	240	1.000	300	0.457
010	0.178	070	1.000	130	1.000	190	1.000	250	1.000	310	0.363
020	0.178	080	1.000	140	1.000	200	1.000	260	1.000	320	0.288
030	0.214	090	1.000	150	1.000	210	1.000	270	0.912	330	0.234
040	0.268	100	1.000	160	1.000	220	1.000	280	0.724	340	0.237
050	0.339	110	1.000	170	1.000	230	1.000	290	0.575	350	0.224

**055     0.380 (special radial)**

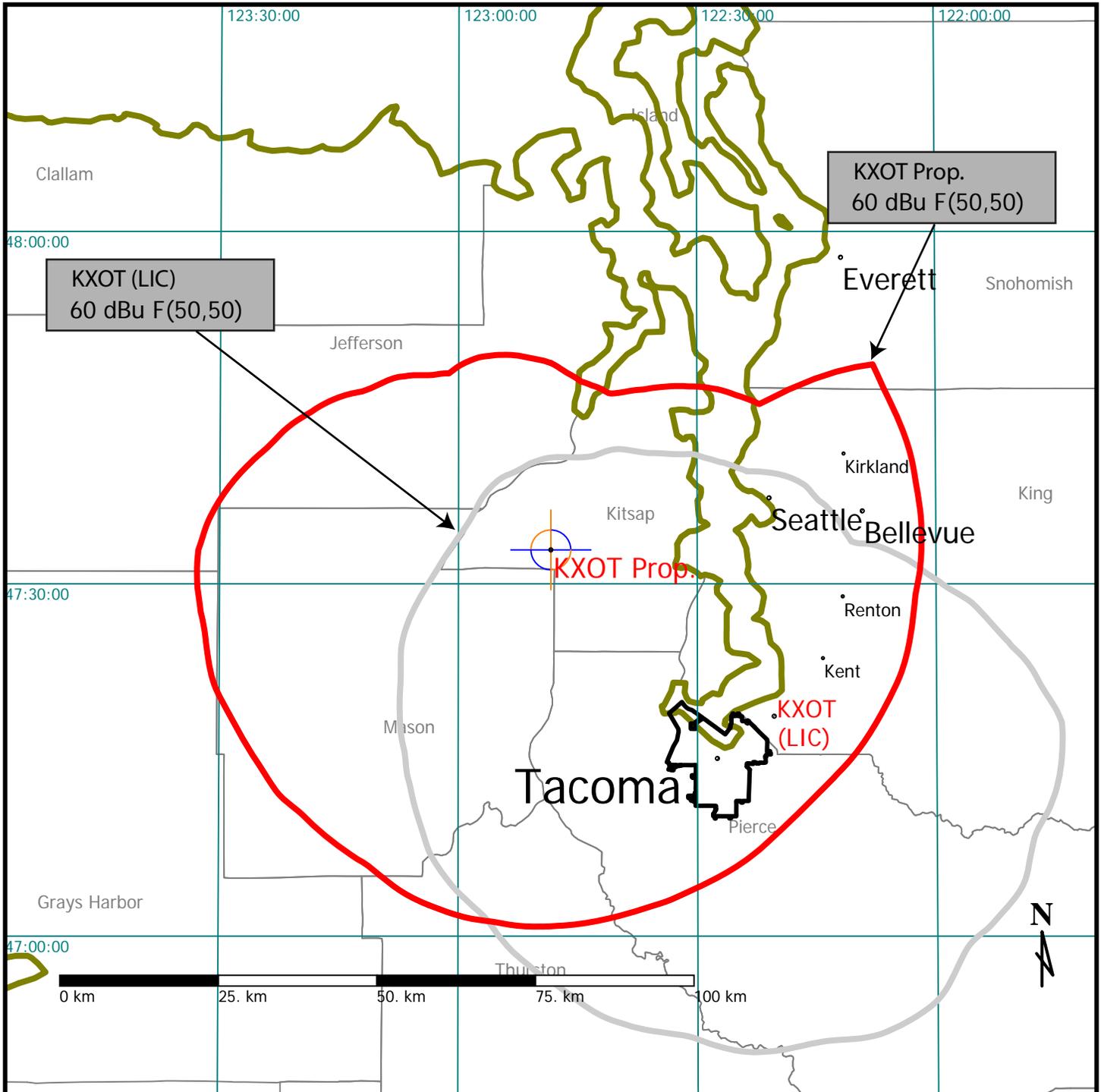
All radial transitions meet the 2db/10dg Rule, except for 55-60dg, which is outside the arc of protection.

# Exhibit 14 - Community of License Coverage

Brown Broadcast Services, Inc.  
Job: KXOT at Gold Mt Final.fmj  
Master Database: 2010\_May\_22.fmd  
Lat: N47:32:53 Lon: W122:48:23 NAD-27  
Scale: 1:900000  
Channel: 219 Class: C1

rfInvestigator Version 3.4.10  
by rfSoftware, Inc.  
Date: 5/31/2010 1:36:15 PM  
Key:

Protected



**EXHIBIT 16**  
**CONTOUR OVERLAP PROTECTION**  
**TO OTHER RESERVED-BAND STATIONS**  
**& SPACING REQUIREMENTS**  
**TO NON-RESERVED BAND STATIONS**

This proposed minor-change meets the contour overlap requirements of §73.509 with respect to all other reserved-band stations, with the exception of second-adjacent station KBCS, Bellevue, WA. A waiver of *interference-received* from KBCS is requested as part of the preceding **Engineering Statement**.

Domestic reserved-band stations considered:

ID	City	St	Chan	CL	Stat	Prefix	ARN	Dist	Min 207	Clear 207
KXOT	TACOMA	WA	219	C2	LIC	BLED	20060817AEN	41.22	224	-182.78
KSVR	MOUNT VERNON	WA	219	A	LIC	BLED	20021112AAQ	101.48	200	-98.52
KPTZ	PORT TOWNSEND	WA	220	A	CP	BNPED	20071017AGZ	62.13	133	-70.87
KSQM	SEQUIM	WA	218	A	LIC	BLED	20081209AAD	65.33	133	-67.67
KZAZ	BELLINGHAM	WA	219	A	LIC	BLED	19910828KA	141.68	200	-58.32
20071022ADC	GETCHELL	WA	218	A	APP	BNPED	20071022ADC	79	133	-54
20071015ACS	GRANITE FALLS	WA	218	A	APP	BNPED	20071015ACS	89.96	133	-43.04
KBCS	BELLEVUE	WA	217	C3	LIC	BLED	20031224AAH	49.97	76	-26.03
KBCS	BELLEVUE	WA	217	C2	APP		FILED CONCURRENTLY	52.57	79	-26.43
KROH	PORT TOWNSEND	WA	216	C3	CP	BNPED	20071022BDU	52.8	76	-23.2
KGHI	WESTPORT	WA	218	A	CP MOD	BMPED	20091229AAB	111.49	133	-21.51
KSJU	FRIDAY HARBOR	WA	220	A	CP	BNPED	20071012ARO	113.35	133	-19.65
20071022ARM	WENATCHEE	WA	219	A	APP	BNPED	20071022ARM	184.73	200	-15.27
20071022ADF	DARRINGTON	WA	218	A	CP	BNPED	20071022ADF	124.81	133	-8.19
KNWU	FORKS	WA	218	A	CP MOD	BMPED	20090311ABO	126.6	133	-6.4
KCFL	ELMA	WA	217	A	CP MOD	BMPED	20090615ABE	75.15	75	0.15
KMUN	ASTORIA	OR	220	C2	LIC	BLED	20030707AAM	164.86	158	6.86
KCED	CENTRALIA	WA	217	A	LIC	BLED	19900515KA	93.32	75	18.32
KOPB-FM	PORTLAND	OR	218	C0	LIC	BLED	20030213AAI	225.21	196	29.21

Domestic non-reserved band stations considered. (Only I.F.-spaced stations were found to be within range):

ID	City	St	Chan	CL	Stat	Prefix	ARN	Dist	Min 207	Clear 207
KZOK-FM	SEATTLE	WA	273	C	LIC	BLH	19991221AAZ	63.34	41	22.34

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All contour calculations were made using the methods and procedures described in 47 CFR §73.313(c). Areas were calculated using a spline integration in one-degree increments. Population totals were calculated by testing each U.S. Census-defined block-centroid population point in the region with a point-in-polygon method. The population was summed for each point within the polygon using data from the 2000 Census.

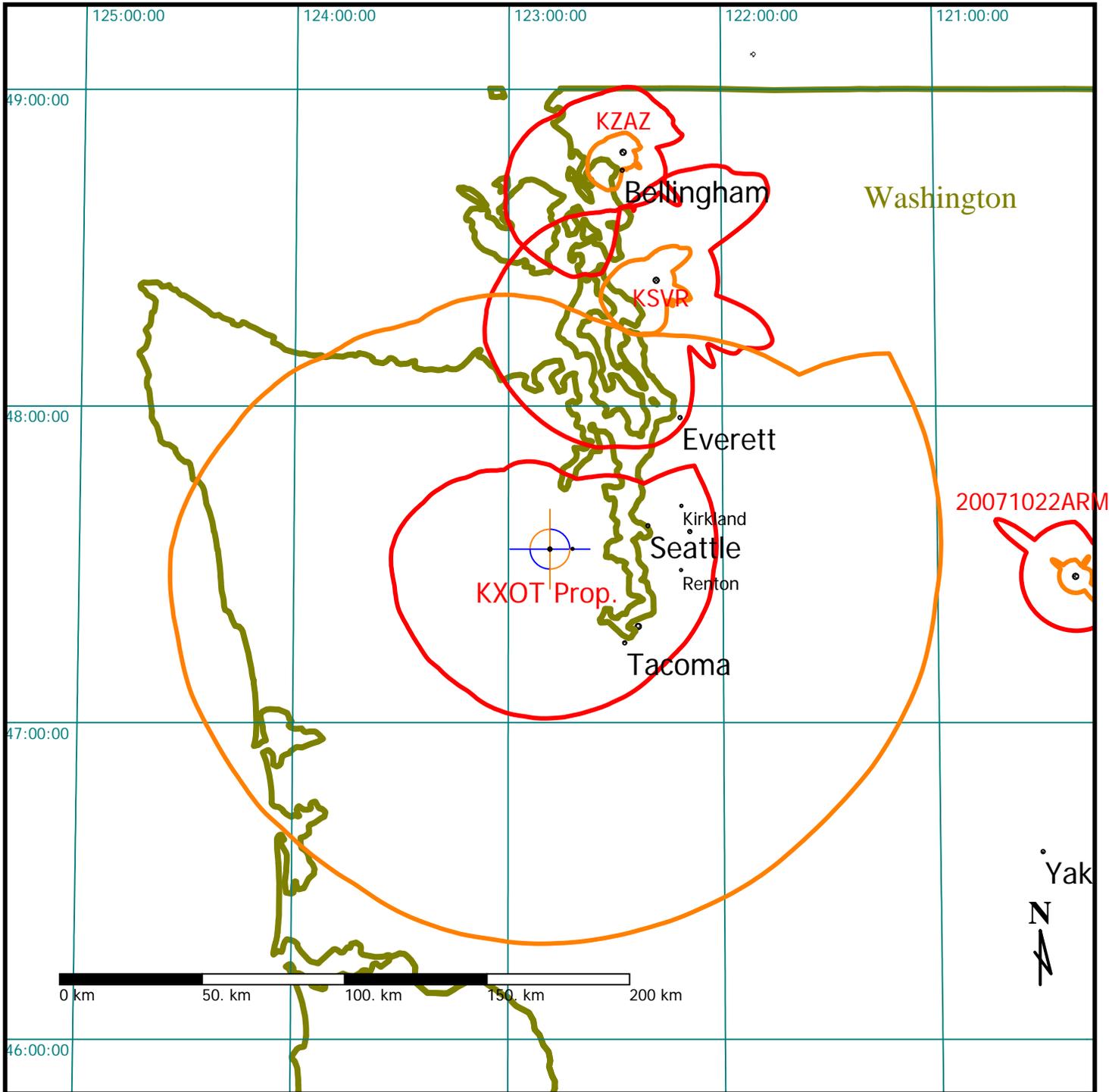
FMOver calculations were done using V-Soft FM Commander software, using “HAAT method 0 (zero)”, 51 data points per radial, and the FCC-modified version of the NGDC 30 second terrain database. According to V-Soft, this combination results in “astounding agreement” with FCC software.

# Exhibit 16a - Co-Channel Contour Protection

Brown Broadcast Services, Inc.  
Job: KXOT at Gold Mt Final.fmj  
Master Database: 2010\_May\_22.fmd  
Lat: N47:32:53 Lon: W122:48:23 NAD-27  
Scale: 1:2000000  
Channel: 219 Class: C1

rfInvestigator Version 3.4.10  
by rfSoftware, Inc.  
Date: 5/26/2010 2:02:00 PM

<b>PROPOSED</b>
Protected: 60dBu F(50,50)
Interfering: 40dBu F(50,10)
<b>AFFECTED</b>
Protected: 60dBu F(50,50)
Interfering: 40dBu F(50,10)

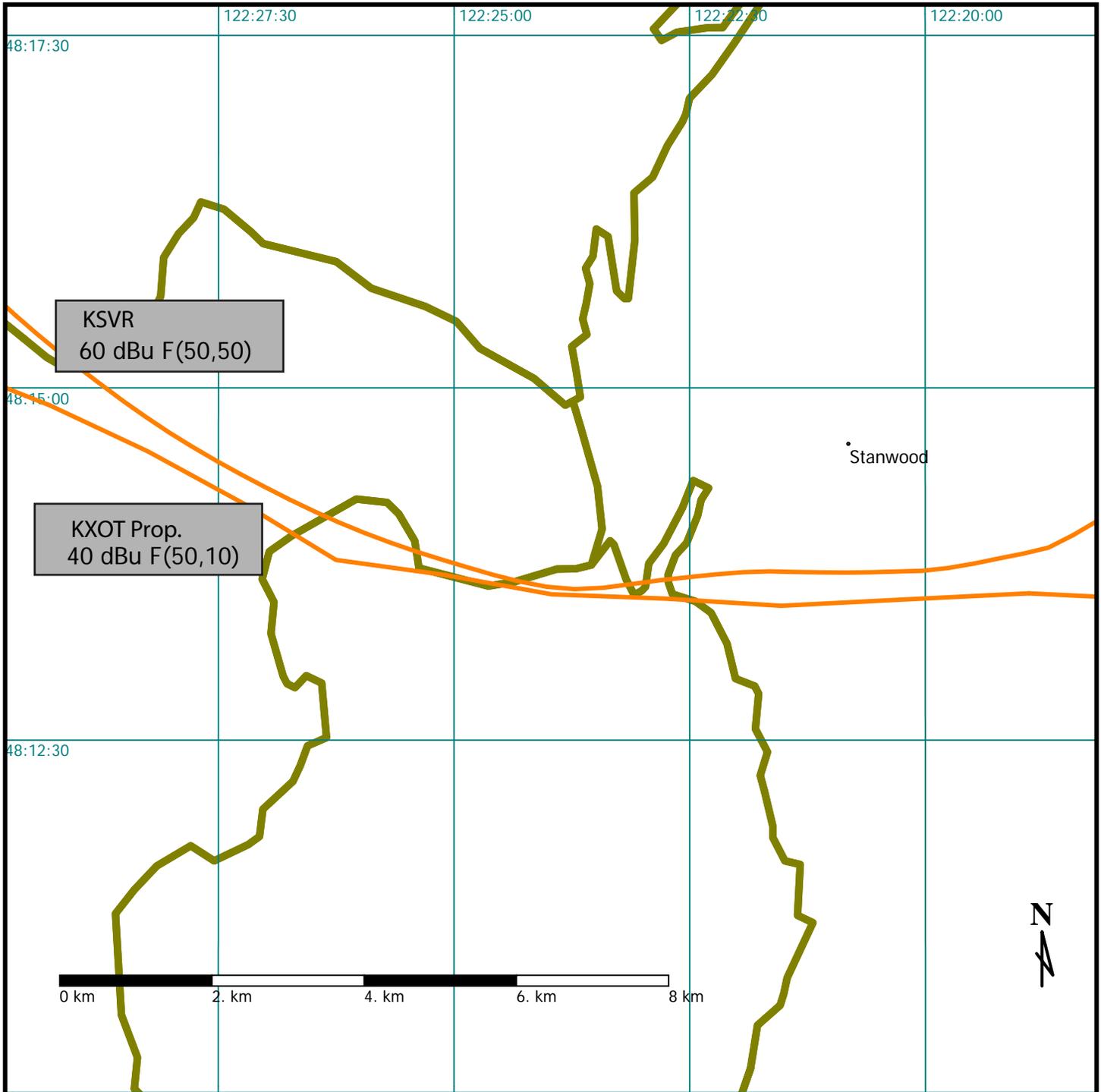


# Exhibit 16b - Co-Channel Contour Protection - vs KSVR

Brown Broadcast Services, Inc.  
Job: KXOT at Gold Mt Final.fmj  
Master Database: 2010\_May\_22.fmd  
Scale: 1:75000  
Channel: 219 Class: C1

**PROPOSED**  
Protected: 60dBu F(50,50)  
Interfering: 40dBu F(50,10)  
**AFFECTED**  
Protected: 60dBu F(50,50)  
Interfering: 40dBu F(50,10)

rfInvestigator Version 3.4.10  
by rfSoftware, Inc.  
Date: 5/26/2010 2:07:19 PM



# EXHIBIT 16c

## FMOver Analysis - Proposed Minor-Change vs. KSVR, Mount Vernon, WA

05-26-2010

FCC NGDC 30 Sec Terrain Data

FMOver Analysis

KXOT

KSVR BLED20021112AAQ

Channel = 219C1  
 Max ERP = 4.3 kW  
 RCAMSL = 689 M  
 N. Lat. 47 32 53.0  
 W. Lng. 122 48 23.0  
 Protected  
 60 dBu

Channel = 219A  
 Max ERP = 0.17 kW  
 RCAMSL = 308 M  
 N. Lat. 48 23 49.0  
 W. Lng. 122 18 26.0  
 Interfering  
 40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
336.0	000.2391	0621.1	032.5	218.1	000.1700	0304.0	081.9	33.72	
337.0	000.2397	0620.5	032.5	217.9	000.1700	0303.9	081.4	33.87	
338.0	000.2403	0619.5	032.5	217.7	000.1700	0303.9	080.9	34.03	
339.0	000.2409	0618.0	032.5	217.5	000.1700	0303.9	080.4	34.18	
340.0	000.2415	0616.2	032.4	217.2	000.1700	0303.8	080.0	34.33	
341.0	000.2389	0614.6	032.3	216.9	000.1700	0303.8	079.6	34.46	
342.0	000.2363	0613.8	032.2	216.6	000.1700	0303.7	079.2	34.58	
343.0	000.2336	0613.7	032.1	216.3	000.1700	0303.6	078.8	34.71	
344.0	000.2310	0613.5	032.0	216.0	000.1700	0303.6	078.4	34.84	
345.0	000.2285	0612.6	031.9	215.7	000.1700	0303.5	078.1	34.95	
346.0	000.2259	0611.1	031.7	215.3	000.1700	0303.3	077.7	35.06	
347.0	000.2233	0609.9	031.6	215.0	000.1700	0303.2	077.4	35.17	
348.0	000.2208	0609.1	031.5	214.6	000.1700	0303.1	077.1	35.27	
349.0	000.2183	0607.8	031.4	214.3	000.1700	0302.9	076.8	35.37	
350.0	000.2158	0605.5	031.2	213.9	000.1700	0302.7	076.5	35.45	
351.0	000.2133	0602.8	031.0	213.5	000.1700	0302.5	076.3	35.53	
352.0	000.2108	0599.8	030.9	213.1	000.1700	0302.2	076.0	35.60	
353.0	000.2083	0596.0	030.7	212.7	000.1700	0302.0	075.8	35.66	
354.0	000.2059	0591.0	030.4	212.3	000.1700	0301.7	075.7	35.71	
355.0	000.2034	0586.8	030.2	211.9	000.1700	0301.5	075.5	35.75	
356.0	000.2010	0585.7	030.1	211.5	000.1700	0301.2	075.3	35.82	
357.0	000.1986	0584.8	030.0	211.1	000.1700	0301.0	075.1	35.88	
358.0	000.1962	0582.8	029.9	210.7	000.1700	0300.8	074.9	35.93	
359.0	000.1938	0579.8	029.7	210.3	000.1700	0300.5	074.8	35.96	
000.0	000.1914	0577.8	029.5	209.9	000.1700	0300.3	074.7	36.00	
001.0	000.1855	0576.7	029.3	209.5	000.1700	0300.0	074.7	36.00	
002.0	000.1797	0575.2	029.0	209.1	000.1700	0299.6	074.7	35.99	
003.0	000.1739	0572.3	028.7	208.6	000.1700	0299.3	074.7	35.96	
004.0	000.1682	0570.3	028.4	208.2	000.1700	0298.9	074.8	35.93	
005.0	000.1627	0569.2	028.2	207.7	000.1700	0298.6	074.8	35.91	
006.0	000.1572	0569.0	027.9	207.3	000.1700	0298.2	074.8	35.88	
007.0	000.1518	0570.5	027.7	206.9	000.1700	0297.8	074.9	35.86	
008.0	000.1465	0571.9	027.5	206.5	000.1700	0297.4	074.9	35.84	
009.0	000.1413	0572.3	027.3	206.1	000.1700	0296.9	075.0	35.80	
010.0	000.1362	0571.6	027.1	205.7	000.1700	0296.5	075.1	35.75	
011.0	000.1362	0569.9	027.0	205.4	000.1700	0296.1	075.0	35.76	
012.0	000.1362	0567.2	027.0	205.0	000.1700	0295.7	075.0	35.76	
013.0	000.1362	0564.5	026.9	204.6	000.1700	0295.2	074.9	35.76	
014.0	000.1362	0562.1	026.8	204.3	000.1700	0294.8	074.9	35.75	

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015.0	000.1362	0560.7	026.8	203.9	000.1700	0294.3	074.9	35.75
016.0	000.1362	0559.4	026.7	203.6	000.1700	0293.9	074.8	35.75
017.0	000.1362	0557.2	026.7	203.2	000.1700	0293.4	074.8	35.73
018.0	000.1362	0553.9	026.6	202.8	000.1700	0293.0	074.9	35.71
019.0	000.1362	0549.7	026.5	202.5	000.1700	0292.6	075.0	35.66
020.0	000.1362	0544.7	026.4	202.1	000.1700	0292.2	075.1	35.61
021.0	000.1418	0540.5	026.5	201.8	000.1700	0291.8	074.9	35.65
022.0	000.1475	0538.1	026.7	201.4	000.1700	0291.4	074.7	35.70
023.0	000.1533	0537.8	026.9	201.0	000.1700	0290.9	074.5	35.76
024.0	000.1592	0539.5	027.2	200.7	000.1700	0290.3	074.2	35.84
025.0	000.1652	0542.9	027.5	200.3	000.1700	0289.6	073.9	35.92
026.0	000.1713	0546.9	027.9	199.9	000.1700	0288.8	073.6	36.00
027.0	000.1775	0550.8	028.3	199.5	000.1700	0287.8	073.3	36.07
028.0	000.1839	0554.4	028.6	199.0	000.1700	0286.5	073.1	36.12
029.0	000.1904	0557.8	028.9	198.6	000.1700	0285.0	072.8	36.16
030.0	000.1969	0560.8	029.3	198.2	000.1700	0283.2	072.6	36.17
031.0	000.2070	0563.5	029.7	197.7	000.1700	0281.0	072.3	36.21
032.0	000.2173	0566.4	030.2	197.2	000.1700	0278.7	072.0	36.24
033.0	000.2279	0569.4	030.6	196.7	000.1700	0276.4	071.7	36.27
034.0	000.2387	0572.2	031.0	196.2	000.1700	0274.2	071.4	36.29
035.0	000.2497	0574.9	031.5	195.6	000.1700	0272.1	071.2	36.30
036.0	000.2611	0577.5	031.9	195.1	000.1700	0270.0	071.0	36.32
037.0	000.2726	0580.4	032.4	194.5	000.1700	0268.0	070.7	36.33
038.0	000.2845	0583.2	032.9	194.0	000.1700	0266.1	070.6	36.33
039.0	000.2965	0586.0	033.3	193.4	000.1700	0264.2	070.4	36.32
040.0	000.3088	0588.1	033.7	192.8	000.1700	0262.6	070.3	36.30
041.0	000.3254	0589.9	034.2	192.2	000.1700	0261.0	070.1	36.31
042.0	000.3424	0591.4	034.7	191.5	000.1700	0259.8	070.0	36.31
043.0	000.3599	0593.0	035.2	190.9	000.1700	0258.8	069.9	36.31
044.0	000.3778	0594.5	035.7	190.3	000.1700	0257.8	069.8	36.30
045.0	000.3961	0595.7	036.1	189.6	000.1700	0256.9	069.8	36.27
046.0	000.4148	0596.6	036.5	189.0	000.1700	0256.1	069.9	36.23
047.0	000.4340	0597.0	036.9	188.4	000.1700	0255.1	069.9	36.18
048.0	000.4536	0596.9	037.3	187.8	000.1700	0254.2	070.0	36.11
049.0	000.4737	0596.5	037.7	187.2	000.1700	0253.4	070.2	36.03
050.0	000.4942	0596.2	038.1	186.6	000.1700	0252.7	070.4	35.94
051.0	000.5178	0596.3	038.5	185.9	000.1700	0251.9	070.5	35.86
052.0	000.5419	0597.0	038.9	185.3	000.1700	0250.9	070.7	35.76
053.0	000.5697	0597.5	039.4	184.7	000.1700	0249.5	070.9	35.65
054.0	000.5951	0597.9	039.8	184.1	000.1700	0248.2	071.2	35.52
055.0	000.6209	0597.6	040.1	183.5	000.1700	0247.0	071.5	35.37
056.0	001.0923	0597.0	045.3	179.7	000.1700	0235.9	069.0	35.82
057.0	001.6959	0596.3	049.6	176.3	000.1700	0219.3	067.5	35.72
058.0	002.4317	0595.0	053.1	173.3	000.1700	0203.0	066.7	35.35
059.0	003.2997	0593.1	056.0	170.6	000.1700	0186.1	066.4	34.75
060.0	004.3000	0591.0	058.6	168.2	000.1700	0169.6	066.5	34.00
061.0	004.3000	0588.9	058.5	168.0	000.1700	0168.2	067.5	33.60
062.0	004.3000	0587.0	058.4	167.8	000.1700	0166.8	068.5	33.20
063.0	004.3000	0585.7	058.4	167.7	000.1700	0165.4	069.5	32.80
064.0	004.3000	0584.9	058.3	167.5	000.1700	0163.9	070.5	32.40
065.0	004.3000	0585.5	058.3	167.3	000.1700	0162.1	071.5	32.00

**BROWN BROADCAST SERVICES**  
INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

05-26-2010 FCC NGDC 30 Sec Terrain Data

KSVR BLED20021112AAQ

KXOT

Channel = 219A  
 Max ERP = 0.17 kW  
 RCAMSL = 308 M  
 N. Lat. 48 23 49.0  
 W. Lng. 122 18 26.0  
 Protected  
 60 dBu

Channel = 219C1  
 Max ERP = 4.3 kW  
 RCAMSL = 689 M  
 N. Lat. 47 32 53.0  
 W. Lng. 122 48 23.0  
 Interfering  
 40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
157.0	000.1700	0061.6	009.3	025.2	000.1667	0543.9	095.0	36.39	
158.0	000.1700	0068.9	009.8	025.4	000.1676	0544.5	094.5	36.55	
159.0	000.1700	0077.2	010.4	025.6	000.1687	0545.2	094.0	36.74	
160.0	000.1700	0085.9	010.9	025.7	000.1696	0545.8	093.5	36.92	
161.0	000.1700	0094.7	011.4	025.9	000.1705	0546.4	093.1	37.10	
162.0	000.1700	0104.1	011.9	026.0	000.1714	0547.0	092.5	37.29	
163.0	000.1700	0114.4	012.5	026.1	000.1722	0547.5	092.0	37.48	
164.0	000.1700	0125.3	013.0	026.3	000.1730	0548.0	091.4	37.68	
165.0	000.1700	0137.0	013.6	026.4	000.1740	0548.6	090.8	37.89	
166.0	000.1700	0148.9	014.3	026.6	000.1749	0549.2	090.2	38.13	
167.0	000.1700	0159.5	014.8	026.7	000.1756	0549.6	089.6	38.34	
168.0	000.1700	0168.1	015.3	026.7	000.1760	0549.8	089.1	38.51	
169.0	000.1700	0174.9	015.6	026.7	000.1760	0549.8	088.7	38.64	
170.0	000.1700	0181.9	016.0	026.7	000.1759	0549.8	088.2	38.77	
171.0	000.1700	0189.0	016.3	026.7	000.1757	0549.7	087.8	38.90	
172.0	000.1700	0195.5	016.5	026.7	000.1754	0549.5	087.4	39.01	
173.0	000.1700	0201.5	016.8	026.6	000.1751	0549.3	087.0	39.12	
174.0	000.1700	0207.3	017.1	026.5	000.1746	0549.0	086.7	39.22	
175.0	000.1700	0212.9	017.3	026.5	000.1741	0548.7	086.3	39.31	
176.0	000.1700	0218.0	017.5	026.4	000.1735	0548.3	086.0	39.40	
177.0	000.1700	0223.0	017.7	026.3	000.1729	0547.9	085.6	39.48	
178.0	000.1700	0228.2	017.9	026.1	000.1722	0547.5	085.3	39.56	
179.0	000.1700	0232.8	018.1	026.0	000.1714	0547.0	085.0	39.63	
180.0	000.1700	0237.3	018.3	025.9	000.1706	0546.4	084.7	39.70	
181.0	000.1700	0241.6	018.5	025.7	000.1697	0545.8	084.4	39.75	
182.0	000.1700	0243.8	018.5	025.6	000.1686	0545.1	084.2	39.78	
183.0	000.1700	0245.8	018.6	025.4	000.1675	0544.4	084.0	39.80	
184.0	000.1700	0248.1	018.7	025.2	000.1664	0543.7	083.8	39.82	
185.0	000.1700	0250.2	018.8	025.0	000.1652	0542.9	083.6	39.84	
186.0	000.1700	0252.0	018.9	024.8	000.1641	0542.1	083.4	39.85	
187.0	000.1700	0253.2	018.9	024.6	000.1628	0541.4	083.3	39.85	
188.0	000.1700	0254.6	019.0	024.4	000.1616	0540.7	083.1	39.85	
189.0	000.1700	0256.0	019.0	024.2	000.1604	0540.1	083.0	39.85	
190.0	000.1700	0257.4	019.1	024.0	000.1591	0539.5	082.9	39.84	
191.0	000.1700	0259.0	019.1	023.8	000.1579	0539.0	082.7	39.84	
192.0	000.1700	0260.7	019.2	023.6	000.1566	0538.5	082.6	39.84	
193.0	000.1700	0263.1	019.3	023.3	000.1553	0538.2	082.5	39.85	
194.0	000.1700	0266.2	019.4	023.1	000.1541	0537.9	082.3	39.86	
195.0	000.1700	0269.7	019.5	022.9	000.1528	0537.7	082.1	39.88	
196.0	000.1700	0273.5	019.6	022.7	000.1515	0537.6	081.9	39.90	
197.0	000.1700	0277.9	019.8	022.5	000.1502	0537.7	081.7	39.93	
198.0	000.1700	0282.5	020.0	022.2	000.1489	0537.8	081.5	39.96	
199.0	000.1700	0286.4	020.1	022.0	000.1475	0538.1	081.4	39.98	

**BROWN BROADCAST SERVICES**  
 INCORPORATED

Michael D. Brown      3740 S.W. Comus St.      Portland, Oregon 97219-7418      503-245-6065

200.0	000.1700	0289.1	020.2	021.8	000.1461	0538.5	081.3	39.98
201.0	000.1700	0290.8	020.2	021.5	000.1447	0539.1	081.2	39.98
202.0	000.1700	0292.1	020.3	021.3	000.1433	0539.7	081.2	39.96
203.0	000.1700	0293.2	020.3	021.0	000.1419	0540.5	081.1	39.95
204.0	000.1700	0294.4	020.4	020.8	000.1405	0541.3	081.1	39.93
205.0	000.1700	0295.7	020.4	020.5	000.1391	0542.4	081.1	39.92
206.0	000.1700	0296.8	020.5	020.3	000.1377	0543.4	081.1	39.90
207.0	000.1700	0297.9	020.5	020.0	000.1363	0544.6	081.1	39.88
208.0	000.1700	0298.8	020.5	019.8	000.1362	0545.9	081.1	39.90
209.0	000.1700	0299.6	020.5	019.5	000.1362	0547.1	081.1	39.91
210.0	000.1700	0300.3	020.6	019.3	000.1362	0548.4	081.2	39.93
211.0	000.1700	0300.9	020.6	019.0	000.1362	0549.6	081.2	39.94
212.0	000.1700	0301.5	020.6	018.8	000.1362	0550.7	081.3	39.94
213.0	000.1700	0302.2	020.6	018.5	000.1362	0551.8	081.3	39.94
214.0	000.1700	0302.7	020.7	018.3	000.1362	0552.9	081.4	39.94
215.0	000.1700	0303.2	020.7	018.0	000.1362	0553.8	081.5	39.93
216.0	000.1700	0303.6	020.7	017.8	000.1362	0554.7	081.6	39.92
217.0	000.1700	0303.8	020.7	017.5	000.1362	0555.6	081.7	39.90
218.0	000.1700	0304.0	020.7	017.3	000.1362	0556.3	081.8	39.88
219.0	000.1700	0304.2	020.7	017.1	000.1362	0557.0	082.0	39.85
220.0	000.1700	0304.4	020.7	016.8	000.1362	0557.6	082.1	39.82
221.0	000.1700	0304.5	020.7	016.6	000.1362	0558.2	082.2	39.79
222.0	000.1700	0304.7	020.7	016.4	000.1362	0558.7	082.4	39.75
223.0	000.1700	0304.7	020.7	016.2	000.1362	0559.1	082.5	39.71
224.0	000.1700	0304.6	020.7	015.9	000.1362	0559.5	082.7	39.66
225.0	000.1700	0304.5	020.7	015.7	000.1362	0559.8	082.9	39.61
226.0	000.1700	0304.3	020.7	015.5	000.1362	0560.1	083.1	39.55
227.0	000.1700	0304.2	020.7	015.3	000.1362	0560.4	083.3	39.50
228.0	000.1700	0304.0	020.7	015.1	000.1362	0560.6	083.4	39.44
229.0	000.1700	0303.9	020.7	014.9	000.1362	0560.8	083.7	39.38
230.0	000.1700	0303.8	020.7	014.7	000.1362	0561.1	083.9	39.31
231.0	000.1700	0303.8	020.7	014.5	000.1362	0561.3	084.1	39.25
232.0	000.1700	0303.8	020.7	014.3	000.1362	0561.6	084.3	39.19
233.0	000.1700	0303.8	020.7	014.1	000.1362	0562.0	084.5	39.12
234.0	000.1700	0303.7	020.7	013.9	000.1362	0562.3	084.7	39.05
235.0	000.1700	0303.6	020.7	013.7	000.1362	0562.7	085.0	38.99
236.0	000.1700	0303.3	020.7	013.5	000.1362	0563.1	085.2	38.92
237.0	000.1700	0303.1	020.7	013.4	000.1362	0563.5	085.5	38.84
238.0	000.1700	0302.9	020.7	013.2	000.1362	0564.0	085.7	38.77
239.0	000.1700	0302.9	020.7	013.0	000.1362	0564.4	086.0	38.70
240.0	000.1700	0302.8	020.7	012.9	000.1362	0564.9	086.3	38.62
241.0	000.1700	0302.7	020.7	012.7	000.1362	0565.3	086.5	38.55
242.0	000.1700	0302.4	020.6	012.6	000.1362	0565.7	086.8	38.47
243.0	000.1700	0302.0	020.6	012.4	000.1362	0566.1	087.1	38.39
244.0	000.1700	0301.6	020.6	012.3	000.1362	0566.5	087.4	38.30
245.0	000.1700	0301.3	020.6	012.1	000.1362	0566.8	087.7	38.22
246.0	000.1700	0301.1	020.6	012.0	000.1362	0567.2	088.0	38.13

**BROWN BROADCAST SERVICES**  
INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

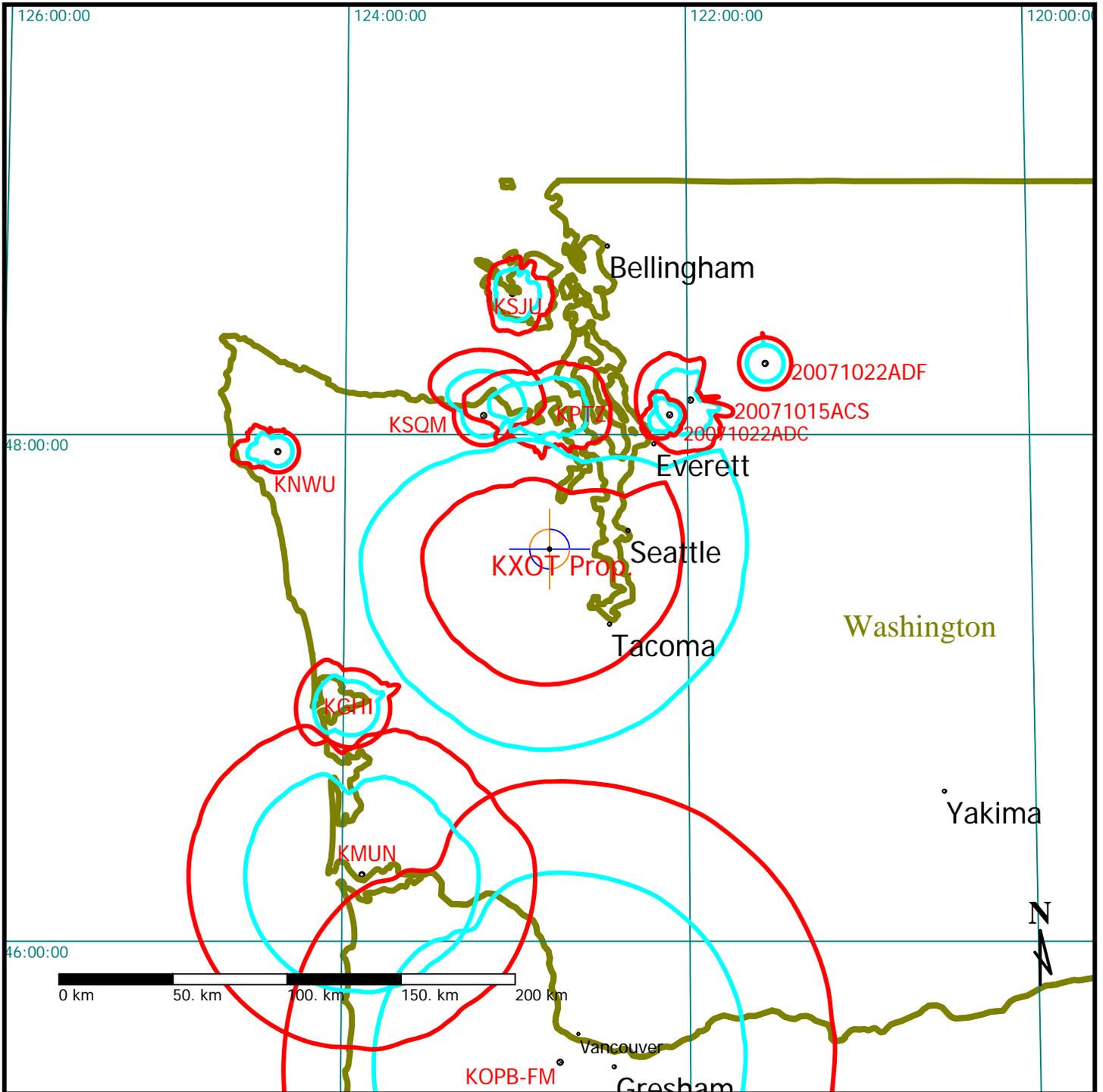
503-245-6065

# Exhibit 16d - 1st-Adjacent-Channel Contour Protection

Brown Broadcast Services, Inc.  
Job: KXOT at Gold Mt Final.fmj  
Master Database: 2010\_May\_22.fmd  
Lat: N47:32:53 Lon: W122:48:23 NAD-27  
Scale: 1:2500000  
Channel: 219 Class: C1

rfInvestigator Version 3.4.10  
by rfSoftware, Inc.  
Date: 5/26/2010 2:28:13 PM

<b>PROPOSED</b> Protected: 60dBu F(50,50) Interfering: 54dBu F(50,10)
<b>AFFECTED</b> Protected: 60dBu F(50,50) Interfering: 54dBu F(50,10)

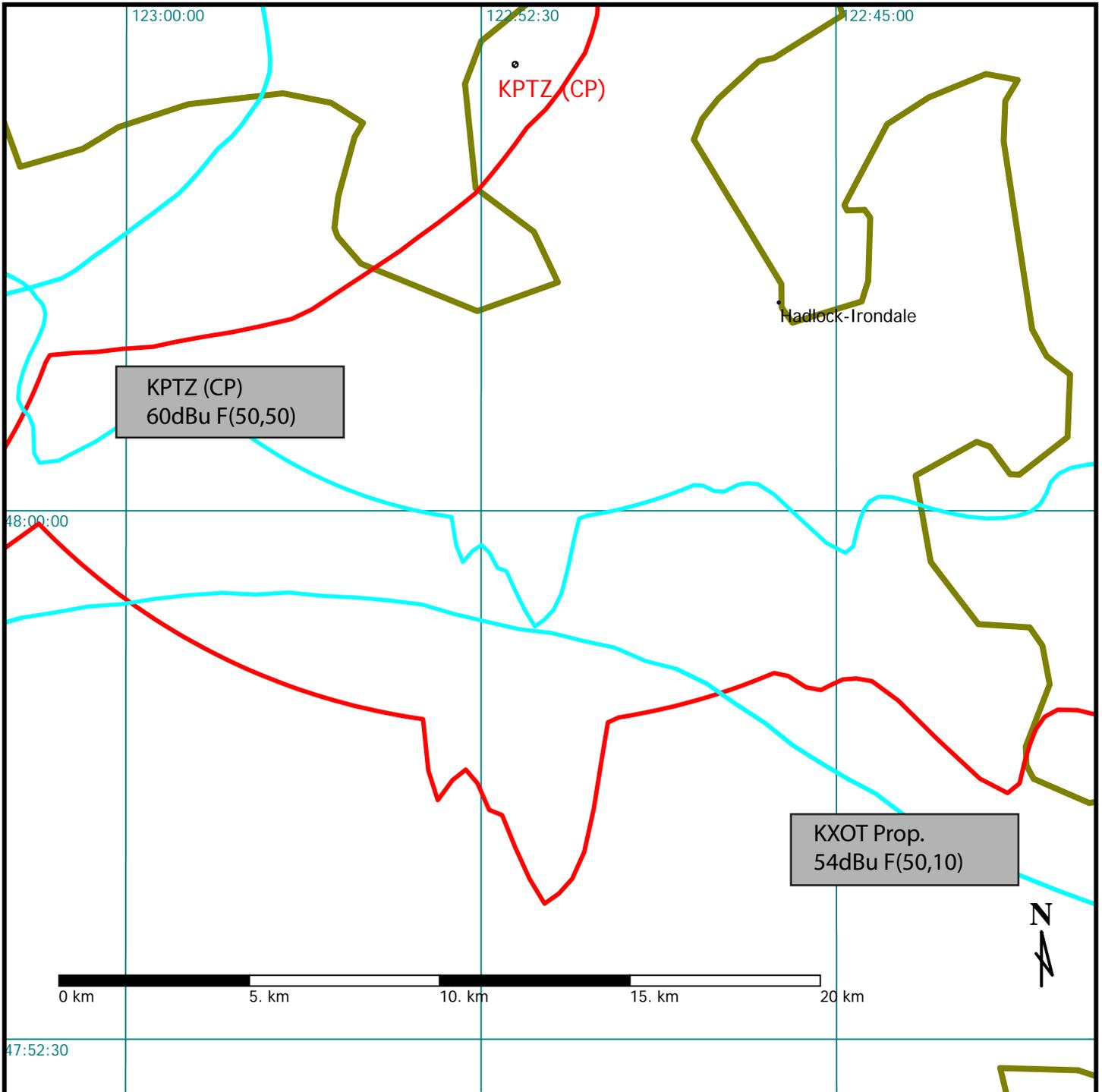


# Exhibit 16e - 1st-Adjacent-Channel Contour Protection - vs KPTZ

Brown Broadcast Services, Inc.  
Job: KXOT at Gold Mt Final.fmj  
Master Database: 2010\_May\_22.fmd  
Scale: 1:150000  
Channel: 219 Class: C1

rfInvestigator Version 3.4.10  
by rfSoftware, Inc.  
Date: 5/26/2010 2:30:10 PM

**PROPOSED**  
Protected: 60dBu F(50,50)  
Interfering: 54dBu F(50,10)  
**AFFECTED**  
Protected: 60dBu F(50,50)  
Interfering: 54dBu F(50,10)



# EXHIBIT 16f

## FMOver Analysis - Proposed Minor-Change vs. KPTZ, Port Townsend, WA

05-26-2010      FCC NGDC 30 Sec Terrain Data      FMOver Analysis

KXOT

KPTZ.C    BNPED20071017AGZ

Channel = 219C1  
 Max ERP = 4.3 kW  
 RCAMSL = 689 M  
 N. Lat. 47 32 53.0  
 W. Lng. 122 48 23.0  
 Protected  
 60 dBu

Channel = 220A  
 Max ERP = 2 kW  
 RCAMSL = 103 M  
 N. Lat. 48 06 20.0  
 W. Lng. 122 51 47.0  
 Interfering  
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
311.0	000.5434	0580.5	038.4	213.9	002.0000	-0147.8	044.3	40.30	
312.0	000.5207	0581.2	038.0	213.4	002.0000	-0148.6	043.7	40.45	
313.0	000.4985	0583.6	037.7	212.8	002.0000	-0148.9	043.1	40.62	
314.0	000.4768	0587.3	037.5	212.3	002.0000	-0148.5	042.5	40.79	
315.0	000.4556	0593.0	037.2	211.8	002.0000	-0148.2	041.9	40.96	
316.0	000.4348	0600.1	037.1	211.4	002.0000	-0147.4	041.3	41.13	
317.0	000.4146	0606.5	036.8	210.8	002.0000	-0146.2	040.8	41.30	
318.0	000.3948	0610.7	036.5	210.2	002.0000	-0144.4	040.2	41.47	
319.0	000.3755	0613.6	036.2	209.4	002.0000	-0141.5	039.8	41.62	
320.0	000.3567	0614.7	035.8	208.5	002.0000	-0139.0	039.3	41.76	
321.0	000.3434	0613.2	035.4	207.6	002.0000	-0138.0	038.9	41.90	
322.0	000.3304	0609.8	035.0	206.7	002.0000	-0138.1	038.5	42.02	
323.0	000.3177	0605.8	034.5	205.7	002.0000	-0138.6	038.2	42.13	
324.0	000.3052	0602.2	034.0	204.6	002.0000	-0136.8	037.9	42.24	
325.0	000.2929	0599.6	033.6	203.6	002.0000	-0131.0	037.6	42.34	
326.0	000.2809	0599.4	033.2	202.6	002.0000	-0121.9	037.3	42.44	
327.0	000.2692	0602.7	033.0	201.8	002.0000	-0111.5	037.0	42.55	
328.0	000.2577	0607.0	032.7	201.0	002.0000	-0100.7	036.6	42.66	
329.0	000.2464	0610.1	032.4	200.0	002.0000	-0088.2	036.4	42.75	
330.0	000.2355	0612.5	032.1	199.1	002.0000	-0074.6	036.2	42.83	
331.0	000.2361	0614.6	032.2	198.6	002.0000	-0067.5	035.7	43.00	
332.0	000.2367	0617.0	032.3	198.1	002.0000	-0060.6	035.2	43.17	
333.0	000.2373	0619.6	032.4	197.5	002.0000	-0053.7	034.7	43.34	
334.0	000.2379	0621.2	032.5	196.9	002.0000	-0046.4	034.3	43.50	
335.0	000.2385	0621.3	032.5	196.3	002.0000	-0037.8	033.9	43.65	
336.0	000.2391	0621.1	032.5	195.5	002.0000	-0029.0	033.5	43.79	
337.0	000.2397	0620.5	032.5	194.8	002.0000	-0020.2	033.2	43.93	
338.0	000.2403	0619.5	032.5	194.0	002.0000	-0012.2	032.8	44.06	
339.0	000.2409	0618.0	032.5	193.2	002.0000	-0004.4	032.5	44.17	
340.0	000.2415	0616.2	032.4	192.3	002.0000	0002.7	032.2	44.28	
341.0	000.2389	0614.6	032.3	191.3	002.0000	0008.5	032.1	44.35	
342.0	000.2363	0613.8	032.2	190.3	002.0000	0013.0	031.9	44.42	
343.0	000.2336	0613.7	032.1	189.3	002.0000	0018.7	031.7	44.49	
344.0	000.2310	0613.5	032.0	188.3	002.0000	0025.4	031.6	44.55	
345.0	000.2285	0612.6	031.9	187.3	002.0000	0031.5	031.5	44.93	
346.0	000.2259	0611.1	031.7	186.3	002.0000	0035.8	031.4	45.91	
347.0	000.2233	0609.9	031.6	185.3	002.0000	0035.7	031.3	45.93	
348.0	000.2208	0609.1	031.5	184.2	002.0000	0033.1	031.3	45.37	

**BROWN BROADCAST SERVICES**  
 INCORPORATED

Michael D. Brown      3740 S.W. Comus St.      Portland, Oregon 97219-7418      503-245-6065

349.0	000.2183	0607.8	031.4	183.2	002.0000	0032.9	031.3	45.34
350.0	000.2158	0605.5	031.2	182.2	002.0000	0034.9	031.3	45.77
351.0	000.2133	0602.8	031.0	181.1	002.0000	0035.4	031.3	45.85
352.0	000.2108	0599.8	030.9	180.1	002.0000	0037.9	031.4	46.36
353.0	000.2083	0596.0	030.7	179.1	002.0000	0041.1	031.6	46.97
354.0	000.2059	0591.0	030.4	178.1	002.0000	0044.0	031.7	47.45
355.0	000.2034	0586.8	030.2	177.1	002.0000	0043.5	031.9	47.28
356.0	000.2010	0585.7	030.1	176.2	002.0000	0042.2	032.0	46.99
357.0	000.1986	0584.8	030.0	175.3	002.0000	0040.5	032.1	46.58
358.0	000.1962	0582.8	029.9	174.3	002.0000	0037.1	032.3	45.83
359.0	000.1938	0579.8	029.7	173.4	002.0000	0033.8	032.5	45.02
000.0	000.1914	0577.8	029.5	172.6	002.0000	0030.8	032.7	44.28
001.0	000.1855	0576.7	029.3	171.7	002.0000	0027.8	033.0	43.97
002.0	000.1797	0575.2	029.0	171.0	002.0000	0024.0	033.4	43.84
003.0	000.1739	0572.3	028.7	170.2	002.0000	0020.9	033.8	43.69
004.0	000.1682	0570.3	028.4	169.5	002.0000	0017.8	034.2	43.54
005.0	000.1627	0569.2	028.2	168.8	002.0000	0016.0	034.6	43.40
006.0	000.1572	0569.0	027.9	168.2	002.0000	0015.4	034.9	43.27
007.0	000.1518	0570.5	027.7	167.5	002.0000	0015.4	035.3	43.14
008.0	000.1465	0571.9	027.5	166.9	002.0000	0016.3	035.6	43.02
009.0	000.1413	0572.3	027.3	166.3	002.0000	0017.3	036.0	42.88
010.0	000.1362	0571.6	027.1	165.8	002.0000	0017.9	036.4	42.73
011.0	000.1362	0569.9	027.0	165.2	002.0000	0018.0	036.7	42.65
012.0	000.1362	0567.2	027.0	164.6	002.0000	0018.1	036.9	42.55
013.0	000.1362	0564.5	026.9	164.0	002.0000	0018.3	037.2	42.45
014.0	000.1362	0562.1	026.8	163.4	002.0000	0018.8	037.5	42.36
015.0	000.1362	0560.7	026.8	162.8	002.0000	0020.0	037.8	42.26
016.0	000.1362	0559.4	026.7	162.2	002.0000	0021.6	038.1	42.17
017.0	000.1362	0557.2	026.7	161.7	002.0000	0023.1	038.4	42.07
018.0	000.1362	0553.9	026.6	161.2	002.0000	0024.1	038.7	41.95
019.0	000.1362	0549.7	026.5	160.8	002.0000	0024.9	039.1	41.83
020.0	000.1362	0544.7	026.4	160.4	002.0000	0025.4	039.5	41.70
021.0	000.1418	0540.5	026.5	159.8	002.0000	0026.2	039.7	41.64
022.0	000.1475	0538.1	026.7	159.1	002.0000	0027.2	039.9	41.59
023.0	000.1533	0537.8	026.9	158.4	002.0000	0028.2	040.0	41.54
024.0	000.1592	0539.5	027.2	157.6	002.0000	0029.1	040.1	41.50
025.0	000.1652	0542.9	027.5	156.8	002.0000	0029.9	040.3	41.46
026.0	000.1713	0546.9	027.9	155.9	002.0000	0031.0	040.4	41.63
027.0	000.1775	0550.8	028.3	155.1	002.0000	0032.0	040.5	41.78
028.0	000.1839	0554.4	028.6	154.3	002.0000	0032.6	040.7	41.84
029.0	000.1904	0557.8	028.9	153.5	002.0000	0032.5	040.9	41.76
030.0	000.1969	0560.8	029.3	152.7	002.0000	0032.2	041.2	41.62
031.0	000.2070	0563.5	029.7	151.8	002.0000	0032.1	041.4	41.53
032.0	000.2173	0566.4	030.2	150.9	002.0000	0032.3	041.6	41.51
033.0	000.2279	0569.4	030.6	150.1	002.0000	0033.4	041.9	41.65
034.0	000.2387	0572.2	031.0	149.2	002.0000	0035.8	042.2	42.02
035.0	000.2497	0574.9	031.5	148.3	002.0000	0040.1	042.5	42.73
036.0	000.2611	0577.5	031.9	147.5	002.0000	0044.9	042.8	43.47
037.0	000.2726	0580.4	032.4	146.7	002.0000	0048.9	043.2	44.00
038.0	000.2845	0583.2	032.9	145.8	002.0000	0050.5	043.6	44.12
039.0	000.2965	0586.0	033.3	145.1	002.0000	0050.2	044.0	43.93
040.0	000.3088	0588.1	033.7	144.3	002.0000	0049.0	044.4	43.60

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INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

05-26-2010 FCC NGDC 30 Sec Terrain Data

KPTZ.C BNPED20071017AGZ

KXOT

Channel = 220A  
 Max ERP = 2 kW  
 RCAMSL = 103 M  
 N. Lat. 48 06 20.0  
 W. Lng. 122 51 47.0  
 Protected  
 60 dBu

Channel = 219C1  
 Max ERP = 4.3 kW  
 RCAMSL = 689 M  
 N. Lat. 47 32 53.0  
 W. Lng. 122 48 23.0  
 Interfering  
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
131.0	002.0000	0067.1	018.0	010.5	000.1362	0571.0	051.0	50.68	
132.0	002.0000	0065.7	017.8	010.1	000.1362	0571.5	050.9	50.75	
133.0	002.0000	0063.9	017.6	009.7	000.1378	0571.9	050.7	50.85	
134.0	002.0000	0061.7	017.3	009.2	000.1401	0572.2	050.6	50.96	
135.0	002.0000	0059.2	016.9	008.7	000.1428	0572.3	050.6	51.05	
136.0	002.0000	0056.6	016.5	008.1	000.1458	0572.1	050.6	51.13	
137.0	002.0000	0053.9	016.1	007.6	000.1489	0571.4	050.7	51.19	
138.0	002.0000	0051.0	015.6	006.9	000.1522	0570.3	050.8	51.23	
139.0	002.0000	0048.4	015.1	006.3	000.1553	0569.4	050.9	51.27	
140.0	002.0000	0046.6	014.8	005.9	000.1577	0569.0	050.9	51.32	
141.0	002.0000	0046.1	014.7	005.6	000.1593	0568.9	050.8	51.40	
142.0	002.0000	0046.3	014.8	005.4	000.1602	0568.9	050.6	51.50	
143.0	002.0000	0047.0	014.9	005.3	000.1609	0568.9	050.3	51.61	
144.0	002.0000	0048.4	015.1	005.3	000.1611	0568.9	050.0	51.74	
145.0	002.0000	0050.1	015.4	005.3	000.1612	0569.0	049.6	51.89	
146.0	002.0000	0050.4	015.5	005.1	000.1623	0569.1	049.4	51.99	
147.0	002.0000	0047.4	014.9	004.5	000.1656	0569.7	049.6	52.01	
148.0	002.0000	0042.0	014.0	003.6	000.1705	0571.0	050.2	51.94	
149.0	002.0000	0036.6	013.1	002.8	000.1751	0572.7	050.8	51.87	
150.0	002.0000	0033.5	012.6	002.3	000.1781	0574.2	051.1	51.85	
151.0	002.0000	0032.3	012.4	001.9	000.1799	0575.3	051.2	51.90	
152.0	002.0000	0032.1	012.3	001.7	000.1813	0576.0	051.1	51.97	
153.0	002.0000	0032.3	012.4	001.5	000.1824	0576.2	051.0	52.05	
154.0	002.0000	0032.6	012.4	001.3	000.1835	0576.4	050.8	52.13	
155.0	002.0000	0032.1	012.4	001.1	000.1850	0576.6	050.8	52.18	
156.0	002.0000	0030.9	012.2	000.8	000.1868	0577.0	050.9	52.19	
157.0	002.0000	0029.7	012.0	000.5	000.1885	0577.3	050.9	52.22	
158.0	002.0000	0028.8	012.0	000.3	000.1898	0577.5	050.9	52.28	
159.0	002.0000	0027.3	012.0	000.1	000.1911	0577.7	050.8	52.34	
160.0	002.0000	0025.9	012.0	359.8	000.1918	0577.9	050.7	52.39	
161.0	002.0000	0024.6	012.0	359.6	000.1923	0578.1	050.6	52.43	
162.0	002.0000	0022.3	012.0	359.4	000.1929	0578.5	050.6	52.47	
163.0	002.0000	0019.6	012.0	359.2	000.1934	0579.2	050.5	52.51	
164.0	002.0000	0018.2	012.0	358.9	000.1939	0580.0	050.5	52.56	
165.0	002.0000	0018.0	012.0	358.7	000.1945	0580.8	050.4	52.60	
166.0	002.0000	0017.7	012.0	358.5	000.1950	0581.6	050.4	52.64	
167.0	002.0000	0016.2	012.0	358.3	000.1956	0582.3	050.3	52.68	
168.0	002.0000	0015.4	012.0	358.0	000.1961	0582.8	050.3	52.71	
169.0	002.0000	0016.3	012.0	357.8	000.1967	0583.3	050.2	52.75	
170.0	002.0000	0019.9	012.0	357.5	000.1973	0583.7	050.2	52.78	
171.0	002.0000	0024.1	012.0	357.3	000.1978	0584.2	050.2	52.80	
172.0	002.0000	0029.0	012.0	357.1	000.1984	0584.7	050.2	52.83	
173.0	002.0000	0032.1	012.3	356.9	000.1989	0585.0	049.8	52.97	

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174.0	002.0000	0035.9	013.0	356.7	000.1994	0585.1	049.2	53.22
175.0	002.0000	0039.6	013.6	356.4	000.2000	0585.4	048.5	53.46
176.0	002.0000	0042.0	014.0	356.1	000.2007	0585.6	048.1	53.63
177.0	002.0000	0043.3	014.2	355.8	000.2014	0585.8	047.9	53.72
178.0	002.0000	0044.1	014.4	355.5	000.2021	0586.0	047.8	53.79
179.0	002.0000	0041.5	013.9	355.3	000.2028	0586.3	048.2	53.64
180.0	002.0000	0038.3	013.4	355.0	000.2033	0586.7	048.8	53.46
181.0	002.0000	0035.2	012.9	354.8	000.2038	0587.3	049.3	53.29
182.0	002.0000	0035.2	012.9	354.6	000.2044	0588.3	049.4	53.31
183.0	002.0000	0033.3	012.5	354.4	000.2049	0589.2	049.7	53.21
184.0	002.0000	0032.9	012.5	354.1	000.2055	0590.3	049.8	53.20
185.0	002.0000	0034.6	012.8	353.8	000.2063	0591.9	049.6	53.33
186.0	002.0000	0036.4	013.1	353.5	000.2070	0593.5	049.3	53.45
187.0	002.0000	0033.2	012.5	353.4	000.2073	0594.0	049.9	53.26
188.0	002.0000	0027.6	012.0	353.3	000.2075	0594.5	050.4	53.07
189.0	002.0000	0021.0	012.0	353.1	000.2081	0595.6	050.5	53.08
190.0	002.0000	0014.6	012.0	352.9	000.2087	0596.7	050.6	53.09
191.0	002.0000	0009.9	012.0	352.6	000.2092	0597.7	050.6	53.09
192.0	002.0000	0004.6	012.0	352.4	000.2098	0598.5	050.7	53.09
193.0	002.0000	-0003.0	012.0	352.2	000.2103	0599.2	050.8	53.08
194.0	002.0000	-0012.2	012.0	352.0	000.2108	0599.9	050.8	53.08
195.0	002.0000	-0022.6	012.0	351.8	000.2114	0600.6	050.9	53.07
196.0	002.0000	-0034.5	012.0	351.5	000.2119	0601.2	051.0	53.06
197.0	002.0000	-0047.1	012.0	351.3	000.2124	0601.8	051.1	53.04
198.0	002.0000	-0059.5	012.0	351.1	000.2129	0602.4	051.2	53.03
199.0	002.0000	-0073.4	012.0	350.9	000.2135	0603.0	051.3	53.01
200.0	002.0000	-0087.5	012.0	350.7	000.2140	0603.6	051.4	52.99
201.0	002.0000	-0101.2	012.0	350.5	000.2145	0604.2	051.5	52.97
202.0	002.0000	-0114.1	012.0	350.3	000.2150	0604.7	051.6	52.95
203.0	002.0000	-0125.6	012.0	350.1	000.2154	0605.2	051.7	52.93
204.0	002.0000	-0133.9	012.0	349.9	000.2159	0605.7	051.8	52.90
205.0	002.0000	-0137.9	012.0	349.7	000.2164	0606.2	051.9	52.88
206.0	002.0000	-0138.5	012.0	349.6	000.2169	0606.7	052.1	52.85
207.0	002.0000	-0138.1	012.0	349.4	000.2173	0607.1	052.2	52.82
208.0	002.0000	-0138.2	012.0	349.2	000.2178	0607.5	052.3	52.78
209.0	002.0000	-0140.2	012.0	349.0	000.2182	0607.8	052.5	52.75
210.0	002.0000	-0143.8	012.0	348.8	000.2186	0608.1	052.6	52.71
211.0	002.0000	-0146.6	012.0	348.7	000.2191	0608.3	052.7	52.67
212.0	002.0000	-0148.4	012.0	348.5	000.2195	0608.6	052.9	52.63
213.0	002.0000	-0148.9	012.0	348.4	000.2199	0608.8	053.0	52.59
214.0	002.0000	-0147.5	012.0	348.2	000.2203	0608.9	053.2	52.55
215.0	002.0000	-0143.9	012.0	348.0	000.2207	0609.1	053.3	52.50
216.0	002.0000	-0136.8	012.0	347.9	000.2211	0609.2	053.5	52.45
217.0	002.0000	-0125.4	012.0	347.7	000.2214	0609.3	053.6	52.41
218.0	002.0000	-0109.5	012.0	347.6	000.2218	0609.4	053.8	52.36
219.0	002.0000	-0088.9	012.0	347.5	000.2222	0609.5	054.0	52.31
220.0	002.0000	-0064.4	012.0	347.3	000.2225	0609.6	054.1	52.25

**BROWN BROADCAST SERVICES**  
INCORPORATED

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3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

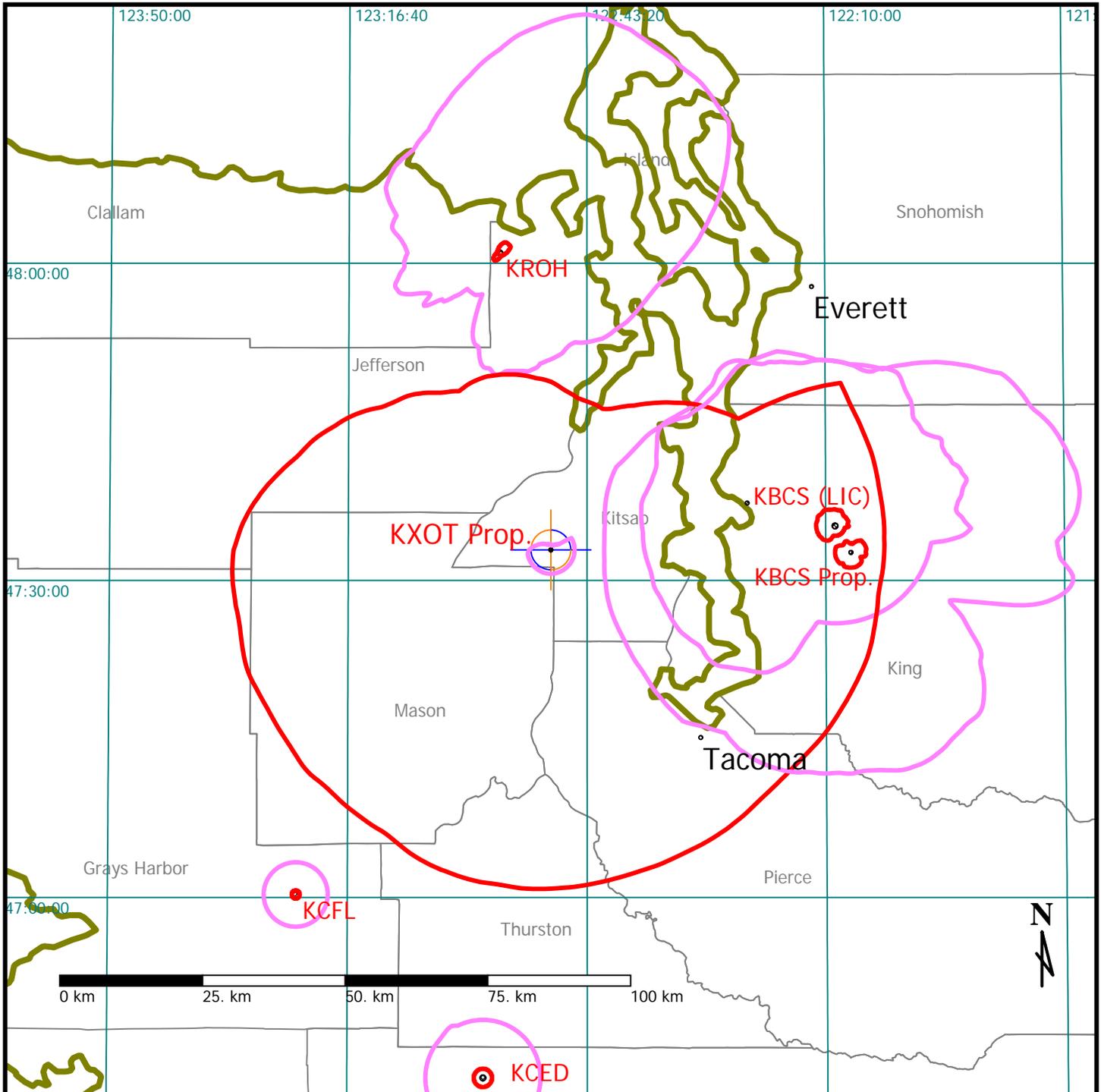
# Exhibit 16g - 2nd & 3rd-Adjacent-Channel Contour Protection

Brown Broadcast Services, Inc.  
Job: KXOT at Gold Mt Final.fmj  
Master Database: 2010\_May\_22.fmd  
Lat: N47:32:53 Lon: W122:48:23 NAD-27  
Scale: 1:1000000  
Channel: 219 Class: C1

rfInvestigator Version 3.4.10  
by rfSoftware, Inc.  
Date: 5/31/2010 11:50:05 AM

**PROPOSED**  
Protected: 60dBu F(50,50)  
Interfering: 100dBu F(50,10)  
**AFFECTED**  
Protected: 60dBu F(50,50)  
Interfering: 100dBu F(50,10)

Waiver of 2nd-adjacent interference-received from KBCS is requested. See Engineering Statement.



**EXHIBIT 19**  
**TV CHANNEL 6 PROTECTION PER §73.525**

The closest TV6 stations, are:

ID	City	St	Chan	Servc	CL	Stat	Prefix	ARN	Dist	Min 73.525	Clear 73.525
NEW	ELLENSBURG	WA	6	LD		APP			183.79	159	24.79
NEW	YAKIMA	WA	6	LD		APP			190.04	159	31.04

Since there are no TV6 stations within the affected 159km distance per §73.525(a), no further analysis is required.

**BROWN BROADCAST SERVICES**  
INCORPORATED

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3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

## EXHIBIT 21 INTERNATIONAL BORDERS

This proposal is within the 320km Canadian border zone. The affected foreign stations are:

ID FCC DB	ID CANADA DB	City	St	Chan	CL	Stat	Prefix	Dist	Min	Clear
NEW	SUPERSEDED BY CKAY-FM	GIBSONS-SECHELT	BC	219	C1			200.58	292	-91.42
INTL:USE	SUPERSEDED BY CKAY-FM	GIBSONS-SECHELT	BC	219	C1			200.58	292	-91.42
	CKAY-FM	GIBSONS	BC	219	C1	OP (LIC)		200.58	292	-91.42
CBYFFM	CBYF-FM	CHILLIWACK	BC	219	A	OP (LIC)		187.71	243	-55.29
CJRQFM	NOT PRESENT	VICTORIA	BC	221	C*			105.25	144	-38.75
INTL:ADD	NOT PRESENT	VICTORIA	BC	221	C*		RM	117.5	144	-26.5
NEW	SUPERSEDED BY CJZN-FM	VICTORIA	BC	217	C			128.7	144	-15.3
INTL:DEL	SUPERSEDED BY CJZN-FM	VICTORIA	BC	217	C*		RM	128.7	144	-15.3
INTL:ADD	SUPERSEDED BY CJZN-FM	VICTORIA	BC	217	C*		RM	128.7	144	-15.3
	CJZN-FM	VICTORIA	BC	217	C	OP (LIC)		128.7	144	-15.3
	NOT PRESENT	PORT ALBERNI	BC	219	A			239.35	243	-3.65
CJRQFM	CBU-FM-1	VICTORIA	BC	221	C			143.38	144	-0.62

There are a number of discrepancies between the FCC FM database, and the Canadian (Industry Canada) FM database. The May 22, 2010 database editions were used in both cases:

1. The “NEW” and “INTL.USE” FCC database entries at Gibsons-Sechelt, BC, are superceded by the licensed facilities of CKAY-FM, Gibsons, BC, with the same class and coordinates.
2. The CJRQ-FM location in the FCC database that is 105.25km from proposed KXOT site, is not present in the Canadian database. CJRQ-FM is now CBU-FM-1, licensed at 143.38km from the proposed KXOT site.
3. The “NEW” , “INTL.DEL”, and “INTL ADD” FCC database entries at on Channel 217 at Victoria, BC, are superceded by the licensed facilities of CJZN-FM, Victoria, BC, with the same class and coordinates.
4. The channel 219 allotment at Port Alberni, BC indicated in the FCC database, does not appear in the Canadian database.

These discrepancies are of no consequence, however. The proposed facilities would provide full protection to all Canadian facilities, as recorded by either country.

### BROWN BROADCAST SERVICES INCORPORATED

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3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

### **OVERLAP CAUSED**

**Exhibits 21a, 21b, and 21c** show that there would be no contour overlap caused by this proposal to the protected Class C1 86km radius (54dBu contour) of CKAY-FM. **Exhibit 21a** also shows protection to the Class A 38km radius of CBYF-FM, and to the protected Class A 38km radius of the “old” allotment at Port Alberni.

All other Canadian allotments or assignments, within range, are 2<sup>nd</sup> adjacent to the KXOT proposal. **Exhibit 21d** shows that the “worst-case” 74dBu interfering contour of this proposal does not extend onto Canadian soil. Therefore, no prohibited overlap can occur to the protected contours of any Canadian 2<sup>nd</sup>-adjacent station.

The domestic interfering contours were drawn using calculated antenna HAATs along the 8 standard radials, with other radial HAATs linearly interpolated between the two closest standard radials, in accordance with Section 5.3.1 of the 1991 bilateral Working Agreement.

FMOver calculations were performed using V-Soft FM Commander software, using “HAAT method 0 (zero)”, 51 data points per radial, and the FCC-modified version of the NGDC 30 second terrain database. According to V-Soft, this combination results in “astounding agreement” with FCC software.

### **OVERLAP RECEIVED**

There would be no overlap-received from any licensed Canadian station (using its licensed HAAT and ERP), to the proposed protected KXOT 60dBu contour. Based on the May 22, 2010 Canadian database, there are no remaining unbuilt or proposed allotments on any of the channels of interest (216 to 222), that are short-spaced to this proposal.

# Exhibit 21a - Canadian Co-Channel Protection

Brown Broadcast Services, Inc.  
 Job: KXOT at Gold Mt Final.fmj  
 Master Database: 2010\_May\_22.fmd  
 Lat: N47:32:53 Lon: W122:48:23 NAD-27  
 Scale: 1:2000000  
 Channel: 219 Class: C1

rfInvestigator Version 3.4.10  
 by rfSoftware, Inc.  
 Date: 5/26/2010 10:07:18 AM  
 Key:

- City Grade
- Protected
- Co-Channel
- 1st Adj
- 2nd/3rd Adj



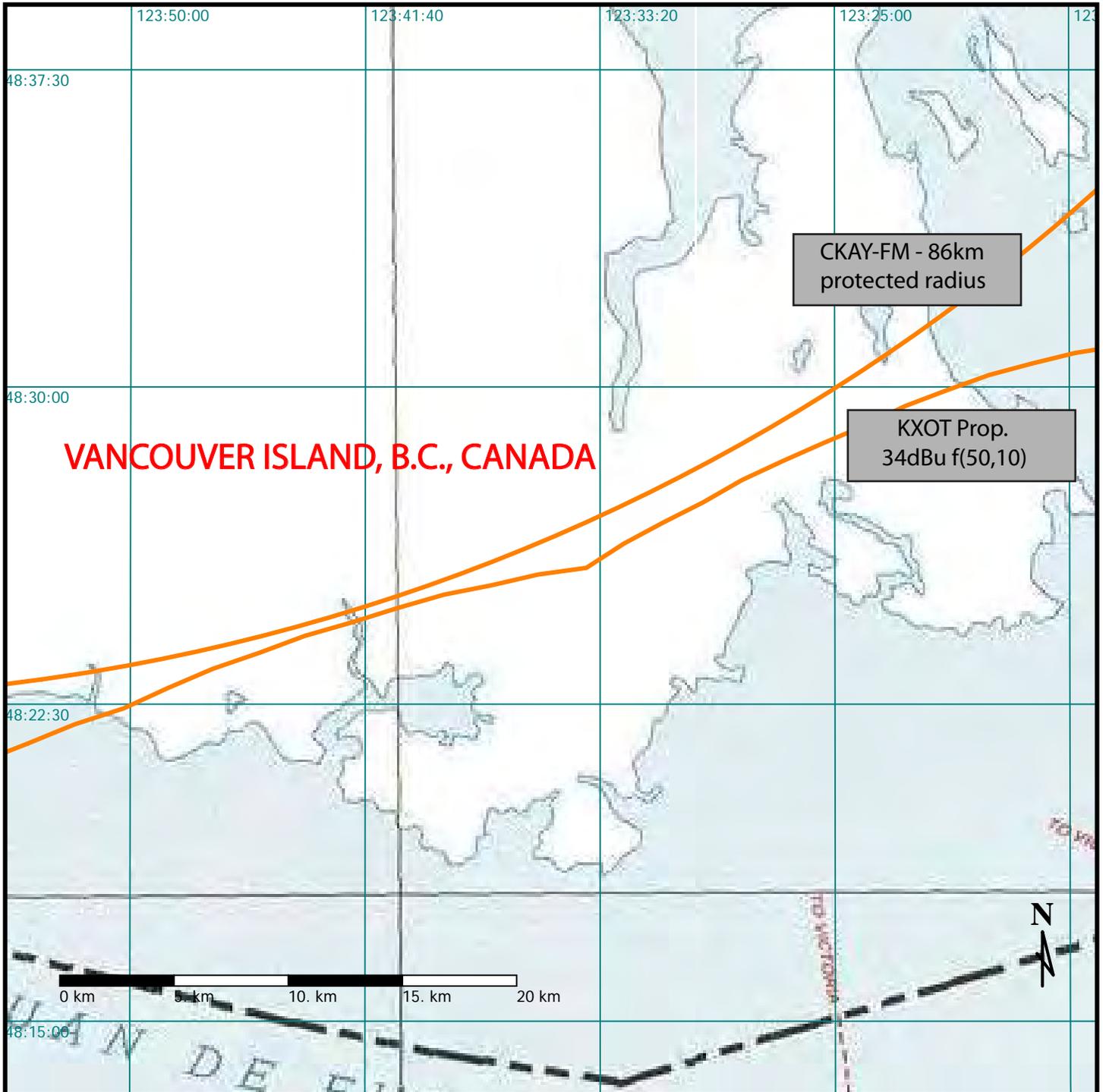
# Exhibit 21b - Canadian Co-Channel Contour Protection Prop. vs. CKAY-FM

Brown Broadcast Services, Inc.  
Job: KXOT at Gold Mt Final.fmj  
Master Database: 2010\_May\_22.fmd

rfInvestigator Version 3.4.10  
by rfSoftware, Inc.  
Date: 5/25/2010 3:18:01 PM  
Key:

Scale: 1:250000  
Channel: 219 Class: C1

- City Grade
- Protected
- Co-Channel
- 1st Adj
- 2nd/3rd Adj



# EXHIBIT 21c

## FMOver Analysis - Proposed Minor-Change vs. CKAY-FM, Gibsons, BC, Canada

05-24-2010 FCC NGDC 30 Sec Terrain Data FMOver Analysis

05-24-2010 FCC NGDC 30 Sec Terrain Data

CKAY-FM  
 (^ Max Class Parameters)  
 Channel = 219C1  
 Max ERP = 100 kW  
 RCAMSL = 573.54 M  
 N. Lat. 49 09 02.0  
 W. Lng. 124 02 55.0  
 Protected  
 54 dBu

KXOT  
 Channel = 219C1  
 Max ERP = 4.3 kW  
 RCAMSL = 689 M  
 N. Lat. 47 32 53.0  
 W. Lng. 122 48 23.0  
 Interfering  
 34 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
107.0	100.0000	0471.9	086.0	356.4	000.2001	0579.0	153.3	22.47	
108.0	100.0000	0469.5	086.0	356.1	000.2007	0579.1	152.0	22.83	
109.0	100.0000	0467.1	086.0	355.9	000.2013	0579.2	150.6	23.19	
110.0	100.0000	0464.7	086.0	355.7	000.2018	0579.2	149.2	23.54	
111.0	100.0000	0462.3	086.0	355.4	000.2024	0579.3	147.8	23.90	
112.0	100.0000	0459.9	086.0	355.1	000.2031	0579.4	146.5	24.25	
113.0	100.0000	0457.4	086.0	354.9	000.2037	0579.5	145.2	24.61	
114.0	100.0000	0455.0	086.0	354.6	000.2044	0579.6	143.8	24.96	
115.0	100.0000	0452.6	086.0	354.3	000.2052	0579.7	142.6	25.31	
116.0	100.0000	0450.2	086.0	354.0	000.2059	0579.8	141.3	25.65	
117.0	100.0000	0447.8	086.0	353.6	000.2067	0579.9	140.0	26.00	
118.0	100.0000	0445.4	086.0	353.3	000.2076	0580.0	138.8	26.34	
119.0	100.0000	0443.0	086.0	352.9	000.2085	0580.2	137.5	26.68	
120.0	100.0000	0440.6	086.0	352.6	000.2094	0580.3	136.3	27.01	
121.0	100.0000	0438.2	086.0	352.2	000.2104	0580.4	135.2	27.34	
122.0	100.0000	0435.8	086.0	351.8	000.2114	0580.6	134.0	27.67	
123.0	100.0000	0433.4	086.0	351.3	000.2124	0580.7	132.9	27.99	
124.0	100.0000	0430.9	086.0	350.9	000.2135	0580.8	131.8	28.31	
125.0	100.0000	0428.5	086.0	350.4	000.2147	0581.0	130.7	28.62	
126.0	100.0000	0426.1	086.0	350.0	000.2158	0581.2	129.6	28.92	
127.0	100.0000	0423.7	086.0	349.5	000.2170	0581.3	128.6	29.23	
128.0	100.0000	0421.3	086.0	349.0	000.2183	0581.5	127.6	29.52	
129.0	100.0000	0418.9	086.0	348.5	000.2196	0581.7	126.7	29.81	
130.0	100.0000	0416.5	086.0	347.9	000.2209	0581.8	125.7	30.10	
131.0	100.0000	0414.1	086.0	347.4	000.2223	0582.0	124.8	30.37	
132.0	100.0000	0411.7	086.0	346.8	000.2238	0582.2	124.0	30.64	
133.0	100.0000	0409.3	086.0	346.3	000.2252	0582.4	123.1	30.91	
134.0	100.0000	0406.9	086.0	345.7	000.2267	0582.6	122.3	31.16	
135.0	100.0000	0404.4	086.0	345.1	000.2283	0582.8	121.6	31.41	
136.0	100.0000	0396.9	086.0	344.4	000.2299	0583.0	120.8	31.64	
137.0	100.0000	0389.4	086.0	343.8	000.2315	0583.2	120.1	31.87	
138.0	100.0000	0381.9	086.0	343.2	000.2332	0583.4	119.5	32.08	
139.0	100.0000	0374.4	086.0	342.5	000.2349	0583.7	118.9	32.29	
140.0	100.0000	0366.9	086.0	341.9	000.2366	0583.9	118.3	32.49	
141.0	100.0000	0359.4	086.0	341.2	000.2384	0584.1	117.8	32.67	
142.0	100.0000	0351.9	086.0	340.5	000.2402	0584.4	117.3	32.84	
143.0	100.0000	0344.4	086.0	339.8	000.2414	0584.6	116.8	32.99	
144.0	100.0000	0336.9	086.0	339.1	000.2410	0584.8	116.4	33.10	
145.0	100.0000	0329.4	086.0	338.4	000.2405	0585.1	116.1	33.20	
146.0	100.0000	0321.9	086.0	337.7	000.2401	0585.3	115.7	33.28	

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147.0	100.0000	0314.4	086.0	336.9	000.2397	0585.6	115.5	33.36
148.0	100.0000	0306.9	086.0	336.2	000.2392	0585.8	115.2	33.41
149.0	100.0000	0299.4	086.0	335.5	000.2388	0586.1	115.1	33.46
150.0	100.0000	0291.9	086.0	334.7	000.2383	0586.3	114.9	33.50
151.0	100.0000	0284.4	086.0	334.0	000.2379	0586.6	114.8	33.52
152.0	100.0000	0276.9	086.0	333.2	000.2374	0586.8	114.8	33.53
153.0	100.0000	0269.4	086.0	332.5	000.2370	0587.1	114.8	33.52
154.0	100.0000	0261.9	086.0	331.7	000.2365	0587.3	114.8	33.51
155.0	100.0000	0254.4	086.0	331.0	000.2361	0587.6	114.9	33.48
156.0	100.0000	0246.9	086.0	330.3	000.2356	0587.8	115.0	33.44
157.0	100.0000	0239.4	086.0	329.5	000.2405	0588.1	115.2	33.48
158.0	100.0000	0231.9	086.0	328.8	000.2486	0588.3	115.4	33.57
159.0	100.0000	0224.4	086.0	328.1	000.2568	0588.5	115.7	33.64
160.0	100.0000	0216.9	086.0	327.4	000.2650	0588.8	116.0	33.69
161.0	100.0000	0209.4	086.0	326.6	000.2733	0589.0	116.4	33.73
162.0	100.0000	0201.9	086.0	325.9	000.2816	0589.3	116.8	33.75
163.0	100.0000	0194.4	086.0	325.3	000.2899	0589.5	117.2	33.75
164.0	100.0000	0186.9	086.0	324.6	000.2982	0589.7	117.7	33.74
165.0	100.0000	0179.4	086.0	323.9	000.3065	0590.0	118.2	33.72
166.0	100.0000	0171.9	086.0	323.2	000.3148	0590.2	118.8	33.68
167.0	100.0000	0164.4	086.0	322.6	000.3230	0590.4	119.4	33.62
168.0	100.0000	0156.9	086.0	321.9	000.3312	0590.6	120.1	33.55
169.0	100.0000	0149.4	086.0	321.3	000.3394	0590.8	120.8	33.47
170.0	100.0000	0141.9	086.0	320.7	000.3474	0591.0	121.5	33.37
171.0	100.0000	0134.4	086.0	320.1	000.3554	0591.2	122.2	33.26
172.0	100.0000	0126.9	086.0	319.5	000.3658	0591.4	123.0	33.17
173.0	100.0000	0119.4	086.0	318.9	000.3767	0591.6	123.9	33.06
174.0	100.0000	0111.9	086.0	318.4	000.3874	0591.8	124.7	32.95
175.0	100.0000	0104.4	086.0	317.8	000.3979	0592.0	125.6	32.82
176.0	100.0000	0096.9	086.0	317.3	000.4083	0592.2	126.6	32.68
177.0	100.0000	0089.4	086.0	316.8	000.4185	0592.4	127.5	32.53
178.0	100.0000	0081.9	086.0	316.3	000.4285	0592.5	128.5	32.36
179.0	100.0000	0074.4	086.0	315.8	000.4384	0592.7	129.5	32.19
180.0	100.0000	0066.9	086.0	315.4	000.4480	0592.8	130.6	32.01
181.0	100.0000	0066.3	086.0	314.9	000.4573	0592.9	131.6	31.81
182.0	100.0000	0065.8	086.0	314.5	000.4665	0592.7	132.7	31.60
183.0	100.0000	0065.3	086.0	314.1	000.4754	0592.4	133.9	31.38
184.0	100.0000	0064.8	086.0	313.7	000.4840	0592.2	135.0	31.16
185.0	100.0000	0064.3	086.0	313.3	000.4924	0591.9	136.2	30.92
186.0	100.0000	0063.8	086.0	312.9	000.5005	0591.7	137.4	30.68
187.0	100.0000	0063.3	086.0	312.6	000.5084	0591.5	138.6	30.43
188.0	100.0000	0062.8	086.0	312.2	000.5159	0591.3	139.8	30.17
189.0	100.0000	0062.3	086.0	311.9	000.5232	0591.1	141.1	29.91
190.0	100.0000	0061.7	086.0	311.6	000.5302	0590.9	142.3	29.64
191.0	100.0000	0061.2	086.0	311.3	000.5369	0590.8	143.6	29.36
192.0	100.0000	0060.7	086.0	311.0	000.5433	0590.6	144.9	29.08
193.0	100.0000	0060.2	086.0	310.7	000.5494	0590.4	146.3	28.79
194.0	100.0000	0059.7	086.0	310.5	000.5553	0590.3	147.6	28.50
195.0	100.0000	0059.2	086.0	310.2	000.5608	0590.1	149.0	28.20
196.0	100.0000	0058.7	086.0	310.0	000.5661	0590.0	150.3	27.90

**BROWN BROADCAST SERVICES**  
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503-245-6065

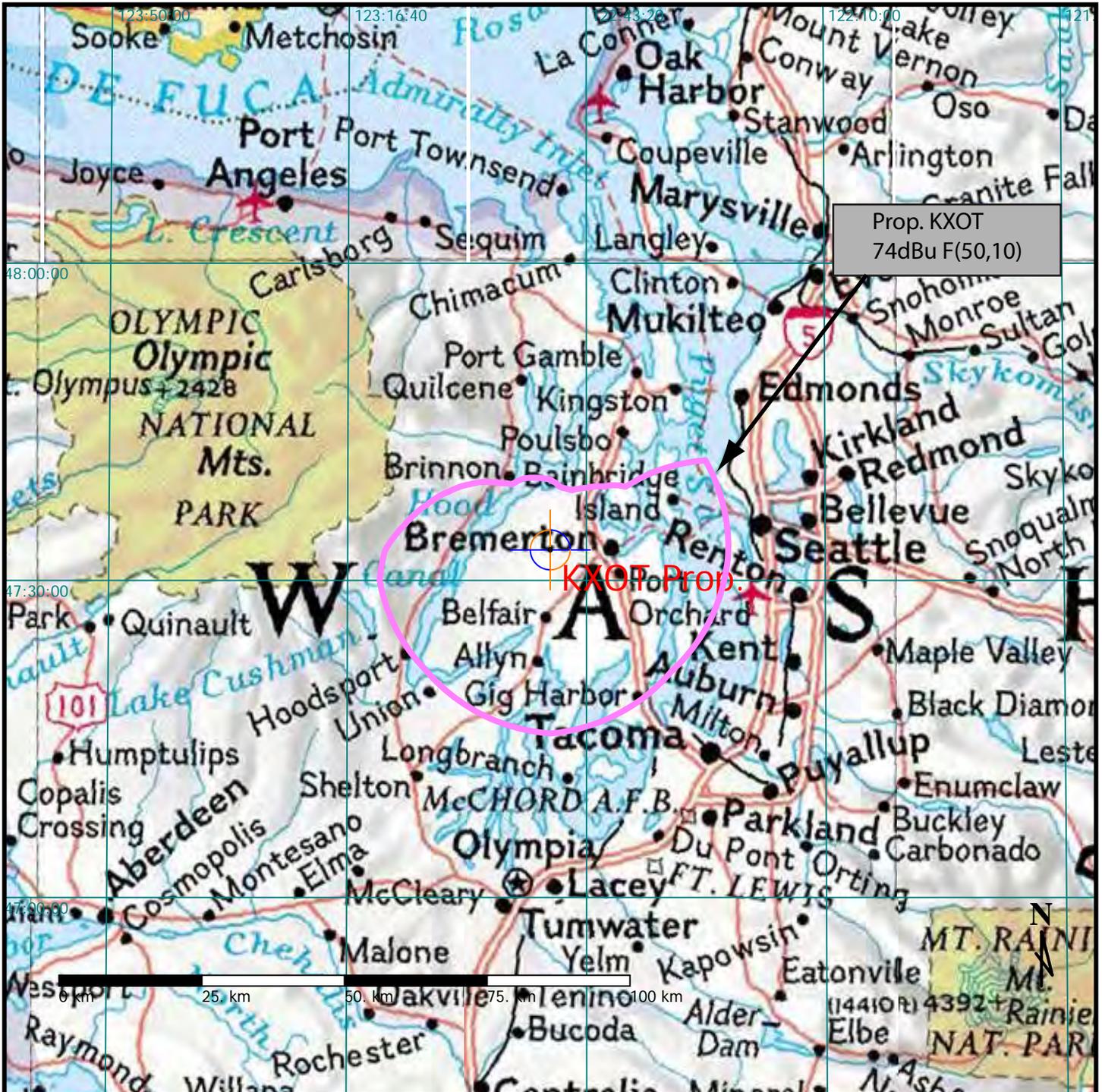
# Exhibit 21d - Canadian 2nd-Adjacent Contour Protection

Brown Broadcast Services, Inc.  
Job: KXOT at Gold Mt Final.fmj  
Master Database: 2010\_May\_22.fmd  
Lat: N47:32:53 Lon: W122:48:23 NAD-27  
Scale: 1:1000000  
Channel: 219 Class: C1

rfInvestigator Version 3.4.10  
by rfSoftware, Inc.  
Date: 5/25/2010 2:44:35 PM  
Key:

- City Grade
- Protected
- Co-Channel
- 1st Adj
- 2nd/3rd Adj

74dBu interfering contour is entirely on U.S. soil.



## **EXHIBIT 22**

### **ENVIRONMENTAL PROTECTION ACT / NIER ANALYSIS**

The applicant proposes mounting a new antenna on an existing 215 meter registered tower. The proposed center of radiation is 175m AGL. A 2-bay full-wavelength-spaced Shively 6810 antenna is anticipated. Calculations were made using FM Model for Windows, version 2.10. FM Model predicted a peak exposure of  $1.26\mu\text{w}/\text{cm}^2$ , at 114 meters from the tower. This represents 0.63% of the Maximum Permissible Exposure (MPE) of  $200\mu\text{w}/\text{cm}^2$  for uncontrolled environments. 47 CFR §1.1307(b)(3) exempts applicants from preparing an Environmental Assessment when the predicted exposure levels would be less than 5% of the FCC limits.

Public access to the tower is already restricted by fencing. The site is posted with appropriate RF exposure warning signs. If tower climbing by authorized personnel becomes necessary, transmitter power will be reduced or operation will cease, as necessary and in full cooperation with the other tower users, so as to not exceed the RF exposure limits.

No modification of the existing tower is proposed, other than side-mounting the antenna. The tower was constructed prior to March 16, 2001. The Nationwide Programmatic Agreement generally allows such a collocation without consultation or review under Section 106 and Subpart B of 36 CFR §800. The applicant believes that it is in full compliance with the Agreement, and that no further study is required.