

CITY OF LICENSE
CALL LETTERS
FACILITY ID
PREPARED FOR
VERSION
JOB

McMinnville, OR
NEW
202368
Celebrate Life Media, LLC
1.0
117108-LF

CONSOLIDATED

ENGINEERING EXHIBIT

FCC Form 349 - Section III-a - Engineering

BROWN BROADCAST SERVICES
INCORPORATED

Michael D. Brown

3740 S.W. Comus St.

Portland, Oregon 97219-7418

503-245-6065

**ENGINEERING STATEMENT
LONG-FORM APPLICATION
FOR A NEW FM TRANSLATOR AT MCMINNVILLE, OR
BNPFT-20180126ADB
Celebrate Life Media, LLC**

SUMMARY

Celebrate Life Media, LLC (“CLM”) hereby submits this 349 Long-Form application for a new FM translator to rebroadcast co-owned KLYC, McMinnville, OR. The applicant’s Short-Form “Tech-Box” proposal appears on the Media Bureau’s list of singletons, ripe for a Long-Form filing.¹

All technical parameters in this application are identical to the previously-filed Amended Short Form. That amendment removed all mutually exclusivity with other applicants.

§74.1201(g) COMPLIANCE

Attached **Exhibit 10** shows that the entire proposed 60dBu translator contour is completely contained within a 25 mile radius centered at the AM transmitter site.

¹MEDIA BUREAU ANNOUNCES AUCTION 100 FM TRANSLATOR FILING WINDOW FOR LONG-FORM APPLICATIONS, Attachment A, DA 18-986, Released October 2, 2018.

Exhibit 10
Prop. NEW McMinnville, OR XLTR
vs KLYC (AM)
Showing 74.1201(g) Compliance

Brown Broadcast Services, Inc.
Job: 20180126ADB.fmj
Master Database: 2018_Oct_04.fmd
Lat: N45:21:16 Lon: W122:59:17 NAD-27
Scale: 1:500000
Channel: 256 Class: DX

rfInvestigator Version 3.8.16
by rfSoftware, Inc.
Date: 10/4/2018 12:48:05 PM

Red=Proposed Translator 60dBu
Blue=KLYC 2mV/m Daytime
Green=25mi/40km from KLYC (AM)

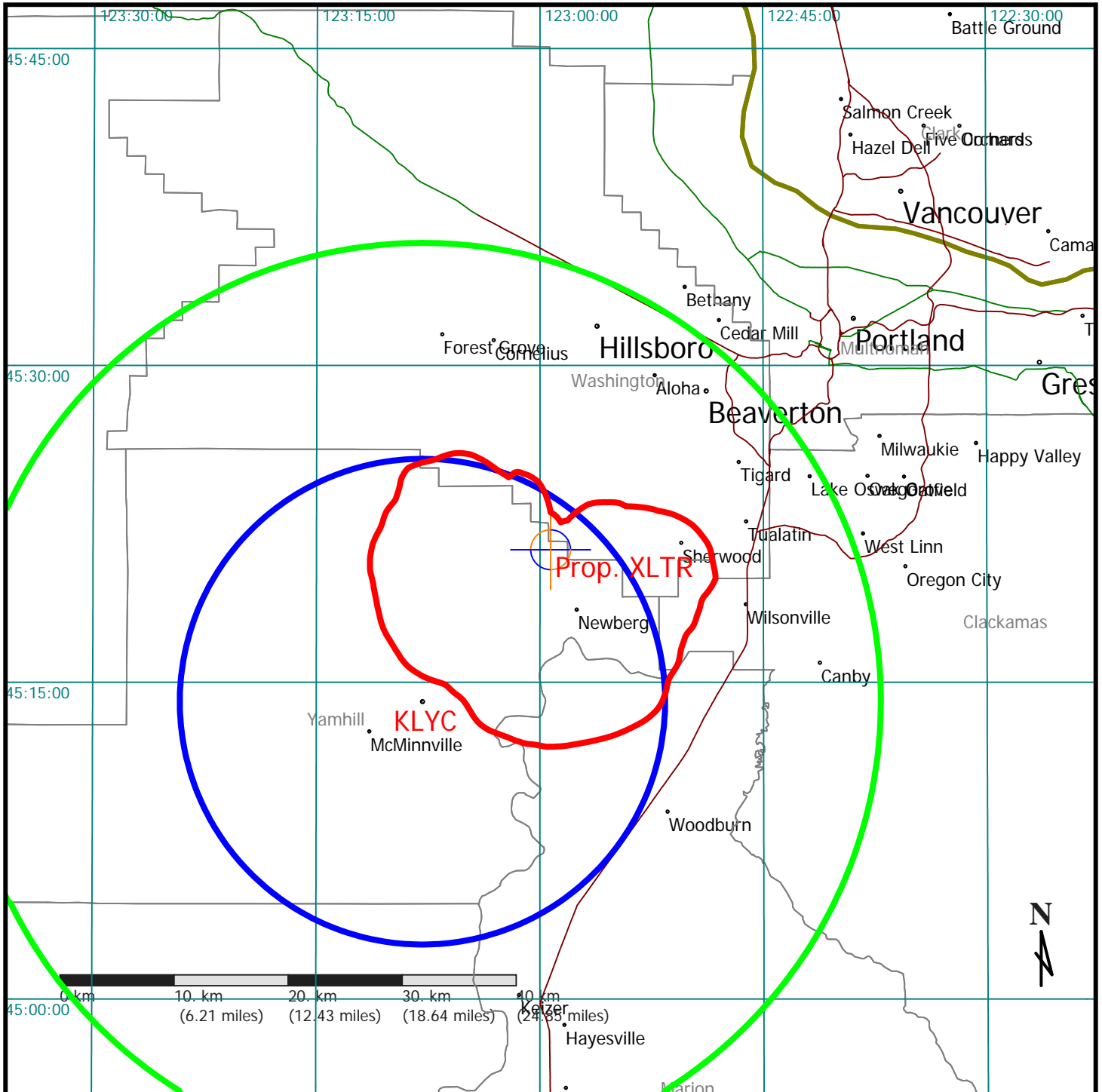


EXHIBIT 13

OVERLAP REQUIREMENTS

INTERFERENCE PROTECTION

This application meets all requirements of 47 CFR §74.1204 regarding interference protection to other stations and authorizations.

McMinnville Translator Long Form										
Celebrate Life Media, LLC										
CH# 256D - 99.1 MHz, Pwr= 0.044 kW DA, HAAT= 0.0 M, COR= 457 M										
Average Protected F(50-50)= 4.5 km										
Standard Directional										
REFERENCE										DISPLAY DATES
45 21 16.0 N.										DATA 09-28-18
122 59 17.0 W.										SEARCH 10-04-18
CH CITY	CALL	TYPE	ANT STATE	AZI <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*OUT* (Overlap in km)
258C1 Portland	KWJJ-FM	LIC	CY OR	56.8 237.0	27.35 BLH19911106KG	45 29 20.0 122 41 40.0	52.000 386	9.6 480	72.9 Entercom License, LLC	-45.6*
254C1 Portland	KUPL	LIC	C OR	47.8 228.0	26.82 BLH20110422AAN	45 30 58.4 122 43 58.7	25.000 502	8.1 594	71.7 Alpha Media Licensee LLC	-45.0*
256D McMinnville	1785721!	APP	DC OR	0.0 0.0	0.00 BNPFT20180126ADB	45 21 16.0 122 59 17.0	0.044	457	---Reference--- Celebrate Life Media, LLC	
256C Eugene	KODZ	LIC	CX OR	180.4 0.4	137.71 BMLH20070606ABU	44 06 57.0 122 59 57.0	100.000 497	180.3 738	70.1 BiCoastal Media Licenses V	0.1
256D Hillsboro	1776515	APP	DC OR	22.6 202.6	15.95 BNPFT20180129AEG	45 29 13.0 122 54 34.0	0.099	8.1 117	2.4 Dolphin Radio, LLC	0.2
256L1 Portland	KSFL-LP	LIC		53.7 234.0	32.57 BLL20150728ACK	45 31 38.0 122 39 03.0	0.100 29	100	We Make The Media Inc.	0.2
256L1 Tillamook	KGLS-LP	LIC		280.1 99.5	67.15 BLL20050328ADT	45 27 26.0 123 50 09.0	0.100	29	Good Life Radio, Inc.	12.0
Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM										
In & Out distances between contours are shown at closest points. Reference Zone= West Zone, Co to 3 rd adjacent.										
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)										
Incoming contour overlap is ignored.										

This exhibit, along with **Exhibits 13a** through **13d**, shows the required contour protections to all other co and first-adjacent facilities.

Contour protection to 2nd-adjacent stations is provided using the ratio method. The F(50/50) contour of KWJJ-FM is 82.14dBu at the proposed site, while the contour of KUPL is 81.28dBu at the proposed site. Using the appropriate U/D ratio of 40dB vs. KUPL, the

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corresponding “worst-case” interfering contour of the proposed translator is 121.28. **Exhibit 13e** shows the extent of this contour, which does not include any populated areas or major roads. No interference to these 2nd-adjacent stations is predicted to occur in any populated areas.

PROTECTED ZONES REPORT:

Protected zones report for 1785721 on channel 256D 10-04-2018
Lat. 45 21 16.0 Lng. 122 59 17.0, ERP= 0.044 kw

Facility is okay with respect to Canada. Distance = 321.5 km.
Facility is okay with respect to AM station towers.

Closest AM Facility is KUIK, HILLSBORO, OR, L, DAN at 22.8° at a distance of 16.0 km
Facility is okay with respect to FCC monitoring stations.

METHODOLOGY:

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 13a

Co-Channel Contour Protection

Brown Broadcast Services, Inc.
Job: 20180126ADB.fmj
Master Database: 2018_Oct_04.fmd
Lat: N45:21:16 Lon: W122:59:17 NAD-27
Scale: 1:1750000
Channel: 256 Class: DX

rfInvestigator Version 3.8.16
by rfSoftware, Inc.
Date: 10/4/2018 1:06:16 PM
Key:

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

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

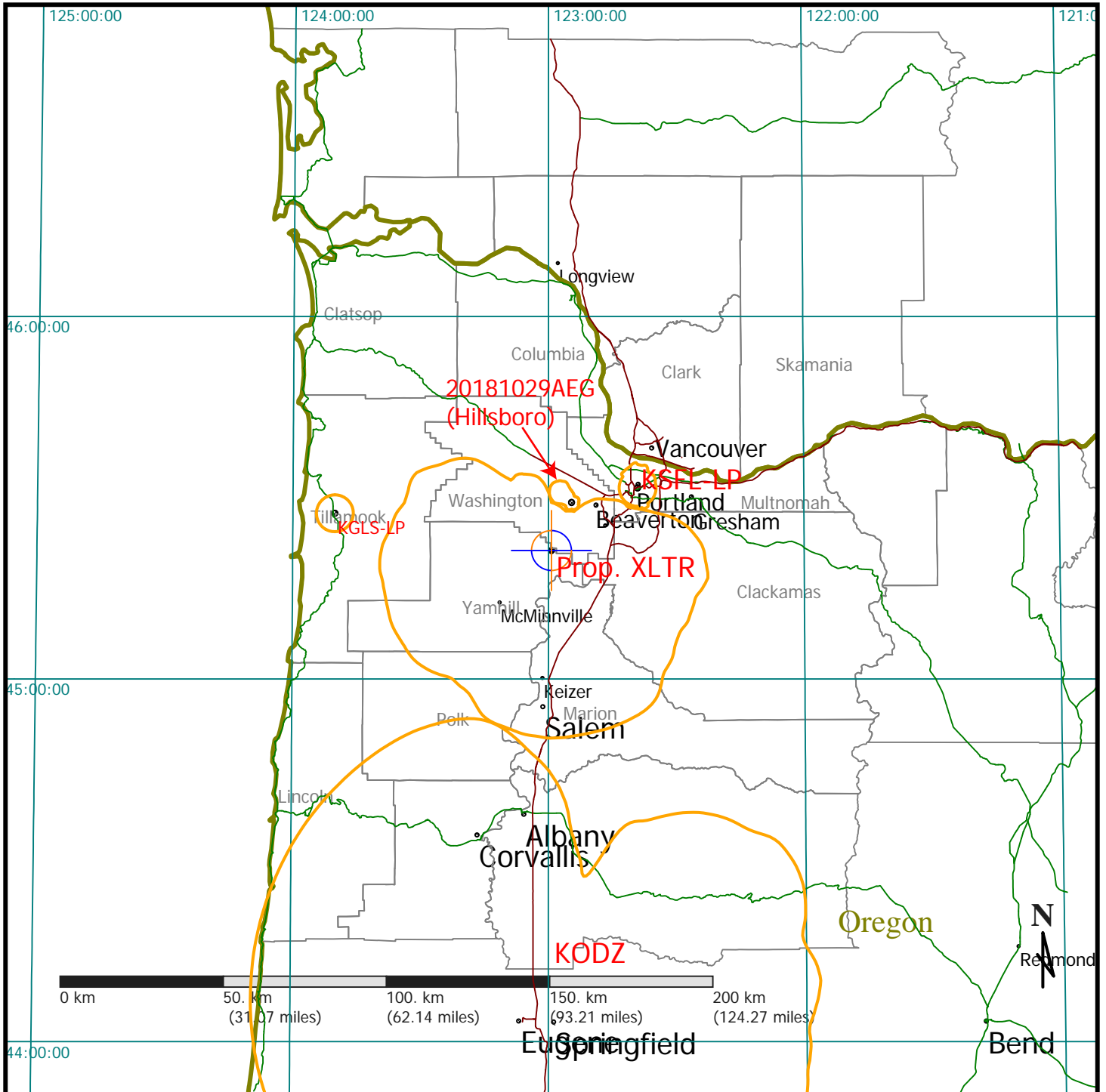


EXHIBIT 13b

FMOVER ANALYSIS

Proposed vs. KODZ, Eugene, OR

10-04-2018 Terrain Data: FCC NGDC 30 Sec FMOver Analysis

KODZ BMLH20070606ABU

Proposed XLTR 1785721

Channel = 256C
 Max ERP = 100 kW
 RCAMSL = 738 m
 N. Lat. 44 06 57.0
 W. Lng. 122 59 57.0
 Protected
 60 dBu

Channel = 256D
 Max ERP = 0.044 kW
 RCAMSL = 457 m
 N. Lat. 45 21 16.0
 W. Lng. 122 59 17.0
 Interfering
 40 dBu

Azi muth (degrees)	ERP (kW)	HAAT (m)	Di st (km)	Azi muth (degrees)	ERP (kW)	HAAT (m)	Di st (km)	Actual (dBu)	IX (km)
315.0	100.0000	0622.2	092.7	222.6	000.0440	0340.4	098.1	23.90	
316.0	100.0000	0622.2	092.7	222.6	000.0440	0340.2	096.5	24.38	
317.0	100.0000	0622.3	092.7	222.5	000.0440	0339.9	094.8	24.86	
318.0	100.0000	0622.3	092.7	222.4	000.0440	0339.4	093.2	25.34	
319.0	100.0000	0622.3	092.7	222.3	000.0440	0338.9	091.6	25.83	
320.0	100.0000	0622.4	092.7	222.2	000.0440	0338.3	090.0	26.32	
321.0	100.0000	0622.4	092.7	222.0	000.0440	0337.6	088.4	26.81	
322.0	100.0000	0622.3	092.7	221.8	000.0440	0336.8	086.8	27.29	
323.0	100.0000	0621.9	092.6	221.6	000.0440	0335.7	085.2	27.78	
324.0	100.0000	0621.4	092.6	221.4	000.0440	0334.5	083.7	28.25	
325.0	100.0000	0620.9	092.6	221.1	000.0440	0333.1	082.1	28.72	
326.0	100.0000	0620.4	092.6	220.8	000.0440	0331.7	080.5	29.19	
327.0	100.0000	0619.9	092.6	220.5	000.0440	0330.0	079.0	29.65	
328.0	100.0000	0619.1	092.5	220.1	000.0440	0328.2	077.5	30.11	
329.0	100.0000	0618.0	092.5	219.7	000.0440	0326.2	075.9	30.57	
330.0	100.0000	0616.6	092.4	219.3	000.0440	0324.4	074.4	31.02	
331.0	100.0000	0614.9	092.4	218.7	000.0440	0322.6	073.0	31.48	
332.0	100.0000	0613.2	092.3	218.2	000.0440	0321.3	071.5	31.95	
333.0	100.0000	0611.0	092.2	217.6	000.0440	0320.7	070.1	32.44	
334.0	100.0000	0607.7	092.1	216.9	000.0440	0321.0	068.7	32.94	
335.0	100.0000	0603.2	091.9	216.2	000.0440	0322.0	067.3	33.46	
336.0	100.0000	0598.2	091.8	215.3	000.0440	0323.5	066.0	33.98	
337.0	100.0000	0593.3	091.6	214.5	000.0440	0324.7	064.8	34.47	
338.0	100.0000	0588.5	091.4	213.5	000.0440	0325.3	063.6	34.94	
339.0	100.0000	0583.5	091.2	212.5	000.0440	0326.0	062.4	35.40	
340.0	100.0000	0578.3	091.0	211.5	000.0440	0327.4	061.2	35.86	
341.0	100.0000	0572.5	090.7	210.4	000.0440	0330.3	060.2	36.36	
342.0	100.0000	0566.0	090.4	209.1	000.0440	0335.9	059.2	36.92	
343.0	100.0000	0558.8	090.1	207.8	000.0440	0344.3	058.3	37.54	
344.0	100.0000	0551.0	089.7	206.4	000.0440	0354.2	057.5	38.16	
345.0	100.0000	0542.5	089.2	205.0	000.0440	0365.3	056.8	38.76	
346.0	100.0000	0532.6	088.7	203.4	000.0440	0377.4	056.3	39.30	
347.0	100.0000	0520.9	088.0	201.7	000.0440	0386.8	055.9	39.69	
348.0	100.0000	0506.7	087.1	199.9	000.0440	0393.4	055.8	39.91	
349.0	100.0000	0490.1	086.1	198.0	000.0440	0396.7	055.9	39.96	
350.0	100.0000	0471.9	085.0	196.1	000.0440	0398.3	056.2	39.87	

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351.0	100.0000	0452.8	083.6	194.2	000.0440	0400.9	056.8	39.71
352.0	100.0000	0433.1	082.2	192.3	000.0440	0404.3	057.6	39.50
353.0	100.0000	0412.7	080.7	190.5	000.0440	0409.0	058.6	39.26
354.0	100.0000	0390.9	079.1	188.8	000.0440	0412.8	059.8	38.92
355.0	100.0000	0369.4	077.5	187.2	000.0440	0415.4	061.0	38.54
356.0	100.0000	0349.3	076.0	185.7	000.0440	0415.7	062.2	38.12
357.0	100.0000	0332.3	074.8	184.3	000.0440	0416.3	063.2	37.77
358.0	100.0000	0315.1	073.5	183.1	000.0440	0418.6	064.3	37.44
359.0	100.0000	0297.5	072.2	181.9	000.0440	0421.4	065.6	37.09
000.0	100.0000	0279.8	070.7	180.8	000.0440	0422.3	067.0	36.63
001.0	100.0000	0259.9	069.1	179.7	000.0440	0422.0	068.7	36.05
002.0	100.0000	0239.9	067.4	178.8	000.0440	0421.8	070.4	35.47
003.0	100.0000	0218.5	065.5	178.0	000.0440	0421.6	072.3	34.82
004.0	100.0000	0195.6	063.4	177.3	000.0440	0421.6	074.6	34.06
005.0	100.0000	0173.7	061.3	176.7	000.0440	0421.4	076.8	33.32
006.0	100.0000	0150.1	058.5	176.2	000.0440	0421.2	079.7	32.34
007.0	100.0000	0125.7	055.1	176.0	000.0440	0421.0	083.3	31.16
008.0	100.0000	0109.4	052.6	175.7	000.0440	0420.8	085.9	30.27
009.0	100.0000	0100.7	051.0	175.4	000.0440	0420.4	087.6	29.69
010.0	100.0000	0091.2	049.1	175.1	000.0440	0420.1	089.6	29.02
011.0	100.0000	0083.6	047.5	174.9	000.0440	0419.9	091.4	28.44
012.0	100.0000	0077.3	046.2	174.6	000.0440	0419.7	093.0	27.94
013.0	100.0000	0071.2	044.8	174.4	000.0440	0419.5	094.5	27.46
014.0	100.0000	0063.1	042.9	174.4	000.0440	0419.4	096.6	26.83
015.0	100.0000	0056.0	041.0	174.3	000.0440	0419.4	098.6	26.25
016.0	100.0000	0052.8	040.0	174.2	000.0440	0419.2	099.8	25.90
017.0	100.0000	0052.1	039.7	173.9	000.0440	0418.9	100.3	25.76
018.0	100.0000	0054.5	040.5	173.3	000.0440	0418.6	099.8	25.87
019.0	100.0000	0061.3	042.4	172.5	000.0440	0418.2	098.5	26.26
020.0	100.0000	0074.1	045.4	171.2	000.0440	0417.6	096.1	26.91
021.0	100.0000	0092.3	049.4	169.6	000.0440	0417.1	093.2	27.80
022.0	100.0000	0113.0	053.2	167.9	000.0440	0416.9	090.5	28.65
023.0	100.0000	0133.3	056.2	166.2	000.0440	0416.7	088.6	29.26
024.0	100.0000	0149.0	058.3	164.9	000.0440	0416.9	087.5	29.63
025.0	100.0000	0160.3	059.8	163.7	000.0440	0417.5	087.0	29.79
026.0	100.0000	0168.4	060.7	162.8	000.0440	0418.0	087.0	29.80
027.0	100.0000	0175.0	061.4	162.0	000.0440	0418.2	087.3	29.73
028.0	100.0000	0181.5	062.1	161.2	000.0440	0418.1	087.6	29.62
029.0	100.0000	0189.9	062.8	160.3	000.0440	0417.9	087.9	29.52
030.0	100.0000	0200.9	063.9	159.3	000.0440	0417.6	088.0	29.46
031.0	100.0000	0213.1	065.0	158.3	000.0440	0417.1	088.2	29.39
032.0	100.0000	0225.7	066.2	157.3	000.0440	0416.6	088.5	29.29
033.0	100.0000	0239.4	067.4	156.2	000.0440	0416.0	088.8	29.17
034.0	100.0000	0253.8	068.6	155.2	000.0440	0415.5	089.1	29.03
035.0	100.0000	0268.1	069.8	154.1	000.0440	0415.2	089.6	28.88
036.0	100.0000	0281.5	070.9	153.1	000.0440	0414.8	090.1	28.69
037.0	100.0000	0294.0	071.9	152.2	000.0440	0414.3	090.8	28.46
038.0	100.0000	0307.1	072.9	151.3	000.0440	0413.5	091.5	28.20
039.0	100.0000	0320.0	073.9	150.4	000.0440	0412.4	092.4	27.90
040.0	100.0000	0331.8	074.7	149.6	000.0440	0411.0	093.3	27.57
041.0	100.0000	0342.5	075.5	148.9	000.0440	0409.6	094.2	27.22
042.0	100.0000	0353.2	076.3	148.2	000.0440	0408.0	095.3	26.86
043.0	100.0000	0363.9	077.1	147.6	000.0440	0406.2	096.4	26.48
044.0	100.0000	0373.8	077.8	146.9	000.0440	0404.2	097.5	26.09

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EXHIBIT 13c

FMOVER ANALYSIS

Proposed vs. KSFL-LP, Portland, OR

10-04-2018 Terrain Data: FCC NGDC 30 Sec FMOver Analysis

KSFL-LP BLL20150728ACK

Prop. XLTR 1785721

Channel = 256L1
 Max ERP = 0.1 kW
 RCAMSL = 100 m
 N. Lat. 45 31 38.0
 W. Lng. 122 39 03.0
 Protected
 60 dBu

Channel = 256D
 Max ERP = 0.044 kW
 RCAMSL = 457 m
 N. Lat. 45 21 16.0
 W. Lng. 122 59 17.0
 Interfering
 40 dBu

Azi muth (degrees)	ERP (kW)	HAAT (m)	Di st (km)	Azi muth (degrees)	ERP (kW)	HAAT (m)	Di st (km)	Actual (dBu)	I X (km)
189.0	000.1000	0017.4	005.6	061.7	000.0036	0342.9	028.9	39.30	
190.0	000.1000	0018.8	005.6	061.6	000.0035	0343.2	028.8	39.30	
191.0	000.1000	0018.6	005.6	061.4	000.0035	0343.6	028.7	39.30	
192.0	000.1000	0017.9	005.6	061.3	000.0034	0344.0	028.6	39.30	
193.0	000.1000	0016.6	005.6	061.2	000.0034	0344.4	028.6	39.30	
194.0	000.1000	0015.3	005.6	061.0	000.0033	0344.9	028.5	39.29	
195.0	000.1000	0014.5	005.6	060.9	000.0033	0345.5	028.4	39.29	
196.0	000.1000	0014.4	005.6	060.8	000.0032	0346.2	028.3	39.29	
197.0	000.1000	0013.7	005.6	060.6	000.0032	0346.8	028.3	39.28	
198.0	000.1000	0012.5	005.6	060.5	000.0031	0347.6	028.2	39.28	
199.0	000.1000	0011.1	005.6	060.3	000.0031	0348.3	028.1	39.27	
200.0	000.1000	0009.0	005.6	060.2	000.0030	0349.2	028.1	39.27	
201.0	000.1000	0006.1	005.6	060.0	000.0030	0350.0	028.0	39.26	
202.0	000.1000	0002.8	005.6	059.9	000.0030	0350.9	028.0	39.28	
203.0	000.1000	-0001.2	005.6	059.7	000.0029	0351.9	027.9	39.31	
204.0	000.1000	-0005.3	005.6	059.5	000.0029	0352.8	027.8	39.34	
205.0	000.1000	-0009.1	005.6	059.4	000.0029	0353.9	027.8	39.37	
206.0	000.1000	-0012.2	005.6	059.2	000.0029	0354.9	027.7	39.40	
207.0	000.1000	-0014.5	005.6	059.0	000.0028	0356.0	027.7	39.42	
208.0	000.1000	-0016.6	005.6	058.9	000.0028	0357.1	027.6	39.45	
209.0	000.1000	-0018.9	005.6	058.7	000.0028	0358.2	027.6	39.47	
210.0	000.1000	-0021.0	005.6	058.5	000.0028	0359.3	027.5	39.50	
211.0	000.1000	-0022.5	005.6	058.3	000.0028	0360.4	027.5	39.52	
212.0	000.1000	-0023.3	005.6	058.2	000.0027	0361.5	027.4	39.54	
213.0	000.1000	-0023.2	005.6	058.0	000.0027	0362.5	027.4	39.55	
214.0	000.1000	-0022.2	005.6	057.8	000.0027	0363.6	027.3	39.57	
215.0	000.1000	-0020.2	005.6	057.6	000.0027	0364.6	027.3	39.58	
216.0	000.1000	-0017.5	005.6	057.4	000.0026	0365.6	027.3	39.59	
217.0	000.1000	-0014.9	005.6	057.2	000.0026	0366.6	027.2	39.60	
218.0	000.1000	-0012.9	005.6	057.0	000.0026	0367.6	027.2	39.60	
219.0	000.1000	-0011.5	005.6	056.8	000.0026	0368.5	027.2	39.60	
220.0	000.1000	-0010.5	005.6	056.6	000.0025	0369.3	027.1	39.60	
221.0	000.1000	-0009.4	005.6	056.4	000.0025	0370.1	027.1	39.60	
222.0	000.1000	-0008.4	005.6	056.2	000.0025	0370.9	027.1	39.59	
223.0	000.1000	-0007.5	005.6	056.0	000.0025	0371.6	027.1	39.58	
224.0	000.1000	-0007.0	005.6	055.8	000.0024	0372.2	027.0	39.56	

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225.0	000.1000	-0006.6	005.6	055.6	000.0024	0372.7	027.0	39.54
226.0	000.1000	-0006.4	005.6	055.4	000.0024	0373.2	027.0	39.52
227.0	000.1000	-0006.3	005.6	055.2	000.0024	0373.6	027.0	39.49
228.0	000.1000	-0006.1	005.6	055.0	000.0023	0373.9	027.0	39.46
229.0	000.1000	-0005.8	005.6	054.8	000.0023	0374.1	027.0	39.43
230.0	000.1000	-0005.5	005.6	054.6	000.0023	0374.3	027.0	39.39
231.0	000.1000	-0005.4	005.6	054.4	000.0023	0374.4	026.9	39.35
232.0	000.1000	-0005.5	005.6	054.2	000.0022	0374.5	026.9	39.31
233.0	000.1000	-0005.8	005.6	053.9	000.0022	0374.5	026.9	39.26
234.0	000.1000	-0006.2	005.6	053.7	000.0022	0374.5	026.9	39.21
235.0	000.1000	-0007.3	005.6	053.5	000.0022	0374.4	026.9	39.16
236.0	000.1000	-0009.0	005.6	053.3	000.0021	0374.3	026.9	39.11
237.0	000.1000	-0011.5	005.6	053.1	000.0021	0374.2	026.9	39.05
238.0	000.1000	-0014.5	005.6	052.9	000.0021	0374.1	027.0	38.99
239.0	000.1000	-0017.3	005.6	052.7	000.0021	0374.0	027.0	38.94
240.0	000.1000	-0019.3	005.6	052.5	000.0020	0373.8	027.0	38.87
241.0	000.1000	-0020.0	005.6	052.3	000.0020	0373.6	027.0	38.81
242.0	000.1000	-0019.5	005.6	052.1	000.0020	0373.3	027.0	38.74
243.0	000.1000	-0018.1	005.6	051.9	000.0020	0373.1	027.0	38.67
244.0	000.1000	-0016.5	005.6	051.7	000.0019	0372.8	027.0	38.60
245.0	000.1000	-0015.4	005.6	051.5	000.0019	0372.5	027.1	38.53
246.0	000.1000	-0015.5	005.6	051.3	000.0019	0372.2	027.1	38.46
247.0	000.1000	-0016.3	005.6	051.1	000.0019	0371.8	027.1	38.38
248.0	000.1000	-0017.9	005.6	050.9	000.0019	0371.5	027.1	38.30
249.0	000.1000	-0019.5	005.6	050.7	000.0018	0371.1	027.2	38.22
250.0	000.1000	-0021.0	005.6	050.5	000.0018	0370.6	027.2	38.14
251.0	000.1000	-0022.5	005.6	050.3	000.0018	0370.2	027.2	38.06
252.0	000.1000	-0024.0	005.6	050.1	000.0018	0369.7	027.3	37.97
253.0	000.1000	-0025.9	005.6	049.9	000.0017	0369.2	027.3	37.89
254.0	000.1000	-0027.8	005.6	049.7	000.0017	0368.7	027.3	37.81
255.0	000.1000	-0029.8	005.6	049.5	000.0017	0368.2	027.4	37.73
256.0	000.1000	-0031.7	005.6	049.3	000.0017	0367.6	027.4	37.65
257.0	000.1000	-0033.7	005.6	049.1	000.0017	0367.0	027.5	37.56
258.0	000.1000	-0035.5	005.6	049.0	000.0017	0366.5	027.5	37.48
259.0	000.1000	-0037.2	005.6	048.8	000.0017	0366.0	027.6	37.40
260.0	000.1000	-0038.1	005.6	048.6	000.0016	0365.5	027.6	37.31
261.0	000.1000	-0038.2	005.6	048.4	000.0016	0365.0	027.7	37.23
262.0	000.1000	-0038.5	005.6	048.3	000.0016	0364.5	027.7	37.14
263.0	000.1000	-0038.8	005.6	048.1	000.0016	0364.1	027.8	37.06
264.0	000.1000	-0039.3	005.6	047.9	000.0016	0363.7	027.8	36.97
265.0	000.1000	-0040.5	005.6	047.8	000.0016	0363.3	027.9	36.89
266.0	000.1000	-0042.4	005.6	047.6	000.0016	0363.0	028.0	36.81
267.0	000.1000	-0044.3	005.6	047.4	000.0015	0362.7	028.0	36.72
268.0	000.1000	-0045.3	005.6	047.3	000.0015	0362.4	028.1	36.64
269.0	000.1000	-0044.6	005.6	047.1	000.0015	0362.1	028.1	36.56
270.0	000.1000	-0043.5	005.6	047.0	000.0015	0361.8	028.2	36.48
271.0	000.1000	-0042.3	005.6	046.8	000.0015	0361.6	028.3	36.39
272.0	000.1000	-0041.2	005.6	046.7	000.0015	0361.4	028.3	36.31
273.0	000.1000	-0040.1	005.6	046.6	000.0015	0361.2	028.4	36.23
274.0	000.1000	-0038.5	005.6	046.4	000.0015	0361.0	028.5	36.15
275.0	000.1000	-0037.9	005.6	046.3	000.0014	0360.8	028.6	36.07
276.0	000.1000	-0038.5	005.6	046.2	000.0014	0360.7	028.6	35.99
277.0	000.1000	-0039.7	005.6	046.0	000.0014	0360.5	028.7	35.91
278.0	000.1000	-0041.2	005.6	045.9	000.0014	0360.4	028.8	35.83

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503-245-6065

EXHIBIT 13d

FMOVER ANALYSIS

Proposed vs. 20180129AEG, Hillsboro OR (new XLTR)

10-04-2018 Terrain Data: FCC NGDC 30 Sec FMOver Analysis

1776515 BNPFT20180129AEG
Prop. Hillsboro

Channel = 256D
Max ERP = 0.099 kW
RCAMSL = 117 m
N. Lat. 45 29 13.0
W. Lng. 122 54 34.0
Protected
60 dBu

1785721
Prop. XLTR - McMinnville

Channel = 256D
Max ERP = 0.044 kW
RCAMSL = 457 m
N. Lat. 45 21 16.0
W. Lng. 122 59 17.0
Interfering
40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
158.0	000.0023	0036.0	002.4	029.4	000.0002	0387.8	014.3	39.31	
159.0	000.0022	0037.4	002.5	029.4	000.0002	0387.8	014.3	39.37	
160.0	000.0022	0039.3	002.5	029.4	000.0002	0387.8	014.2	39.44	
161.0	000.0021	0041.1	002.5	029.4	000.0002	0387.8	014.2	39.51	
162.0	000.0020	0042.6	002.6	029.4	000.0002	0387.9	014.1	39.57	
163.0	000.0019	0044.1	002.6	029.3	000.0002	0388.1	014.1	39.63	
164.0	000.0019	0045.5	002.6	029.2	000.0002	0388.2	014.0	39.68	
165.0	000.0018	0046.5	002.6	029.1	000.0002	0388.5	014.0	39.72	
166.0	000.0018	0046.7	002.6	029.0	000.0002	0388.7	014.0	39.74	
167.0	000.0017	0045.9	002.6	028.8	000.0002	0389.1	013.9	39.73	
168.0	000.0017	0043.7	002.5	028.4	000.0002	0389.6	014.0	39.65	
169.0	000.0017	0040.4	002.4	028.0	000.0002	0389.9	014.0	39.55	
170.0	000.0016	0037.0	002.3	027.6	000.0002	0390.1	014.1	39.42	
171.0	000.0016	0035.3	002.2	027.3	000.0002	0390.2	014.1	39.36	
172.0	000.0016	0033.0	002.1	027.0	000.0002	0390.2	014.2	39.26	
173.0	000.0016	0029.4	002.0	026.6	000.0002	0390.2	014.2	39.13	
174.0	000.0015	0025.4	002.0	026.5	000.0002	0390.2	014.2	39.12	
175.0	000.0015	0021.2	002.0	026.3	000.0002	0390.2	014.2	39.11	
176.0	000.0015	0016.4	002.0	026.3	000.0002	0390.2	014.2	39.14	
177.0	000.0016	0011.7	002.0	026.2	000.0002	0390.2	014.1	39.16	
178.0	000.0016	0008.7	002.1	026.1	000.0002	0390.2	014.1	39.19	
179.0	000.0017	0005.5	002.1	026.0	000.0002	0390.2	014.1	39.21	
180.0	000.0017	0003.7	002.1	025.8	000.0002	0390.2	014.1	39.23	
181.0	000.0018	0004.9	002.1	025.7	000.0002	0390.2	014.0	39.25	
182.0	000.0018	0006.1	002.1	025.6	000.0002	0390.2	014.0	39.27	
183.0	000.0018	0005.7	002.1	025.5	000.0002	0390.2	014.0	39.29	
184.0	000.0019	0003.3	002.1	025.4	000.0002	0390.1	013.9	39.31	
185.0	000.0019	0000.9	002.1	025.3	000.0002	0390.1	013.9	39.32	
186.0	000.0020	0000.9	002.2	025.1	000.0002	0390.1	013.9	39.35	
187.0	000.0021	0001.3	002.2	025.0	000.0002	0390.1	013.9	39.38	
188.0	000.0022	0003.0	002.2	024.9	000.0002	0390.1	013.8	39.40	
189.0	000.0023	0004.5	002.2	024.8	000.0002	0390.1	013.8	39.43	
190.0	000.0024	0007.1	002.3	024.6	000.0002	0390.1	013.8	39.45	
191.0	000.0025	0009.2	002.3	024.5	000.0002	0390.0	013.7	39.47	
192.0	000.0026	0009.3	002.3	024.4	000.0002	0390.0	013.7	39.48	

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503-245-6065

193.0	000.0027	0006.2	002.3	024.2	000.0002	0390.0	013.7	39.50
194.0	000.0028	0001.8	002.3	024.1	000.0002	0389.9	013.6	39.51
195.0	000.0029	-0001.0	002.4	023.9	000.0002	0389.9	013.6	39.53
196.0	000.0029	-0003.4	002.4	023.7	000.0002	0389.9	013.6	39.52
197.0	000.0030	-0003.4	002.4	023.6	000.0002	0389.9	013.6	39.52
198.0	000.0031	-0002.8	002.4	023.4	000.0002	0389.8	013.6	39.51
199.0	000.0031	-0003.2	002.4	023.2	000.0002	0389.8	013.6	39.51
200.0	000.0032	-0003.4	002.4	023.0	000.0002	0389.7	013.6	39.50
201.0	000.0032	-0003.9	002.4	022.9	000.0002	0389.7	013.5	39.49
202.0	000.0033	-0005.5	002.4	022.7	000.0002	0389.6	013.5	39.47
203.0	000.0033	-0007.7	002.4	022.5	000.0002	0389.6	013.5	39.46
204.0	000.0034	-0008.5	002.4	022.3	000.0002	0389.5	013.5	39.44
205.0	000.0035	-0006.8	002.5	022.1	000.0002	0389.5	013.5	39.43
206.0	000.0034	-0004.9	002.5	022.0	000.0002	0389.4	013.5	39.39
207.0	000.0034	-0004.7	002.4	021.8	000.0002	0389.4	013.5	39.36
208.0	000.0034	-0006.1	002.4	021.6	000.0002	0389.3	013.5	39.32
209.0	000.0034	-0007.9	002.4	021.4	000.0002	0389.2	013.5	39.28
210.0	000.0034	-0009.2	002.4	021.3	000.0002	0389.2	013.5	39.25
211.0	000.0033	-0011.0	002.4	021.1	000.0002	0389.1	013.6	39.21
212.0	000.0033	-0012.5	002.4	020.9	000.0002	0389.0	013.6	39.17
213.0	000.0033	-0013.2	002.4	020.7	000.0002	0389.0	013.6	39.12
214.0	000.0033	-0012.5	002.4	020.6	000.0002	0388.9	013.6	39.08
215.0	000.0032	-0010.6	002.4	020.4	000.0002	0388.9	013.6	39.04
216.0	000.0032	-0009.2	002.4	020.2	000.0002	0388.8	013.6	38.98
217.0	000.0031	-0009.7	002.4	020.1	000.0002	0388.7	013.7	38.93
218.0	000.0030	-0011.1	002.4	019.9	000.0002	0388.7	013.7	38.89
219.0	000.0029	-0011.9	002.4	019.8	000.0002	0388.6	013.7	38.87
220.0	000.0028	-0012.4	002.3	019.7	000.0002	0388.6	013.7	38.86
221.0	000.0027	-0013.7	002.3	019.5	000.0002	0388.5	013.8	38.84
222.0	000.0027	-0016.3	002.3	019.4	000.0002	0388.5	013.8	38.82
223.0	000.0026	-0019.9	002.3	019.3	000.0002	0388.4	013.8	38.80
224.0	000.0025	-0023.7	002.3	019.1	000.0002	0388.4	013.9	38.77
225.0	000.0024	-0027.2	002.3	019.0	000.0002	0388.3	013.9	38.75
226.0	000.0024	-0030.7	002.3	018.9	000.0002	0388.2	013.9	38.73
227.0	000.0023	-0033.9	002.3	018.8	000.0002	0388.2	013.9	38.71
228.0	000.0023	-0035.8	002.2	018.6	000.0002	0388.1	014.0	38.69
229.0	000.0023	-0036.0	002.2	018.5	000.0002	0388.1	014.0	38.67
230.0	000.0022	-0035.3	002.2	018.4	000.0002	0388.1	014.0	38.65
231.0	000.0022	-0034.4	002.2	018.3	000.0002	0388.0	014.1	38.63
232.0	000.0021	-0033.1	002.2	018.2	000.0002	0388.0	014.1	38.61
233.0	000.0021	-0031.3	002.2	018.1	000.0002	0388.0	014.1	38.58
234.0	000.0020	-0028.5	002.2	018.0	000.0002	0388.0	014.1	38.56
235.0	000.0020	-0025.2	002.2	017.9	000.0002	0387.9	014.2	38.53
236.0	000.0020	-0021.5	002.2	017.8	000.0002	0387.9	014.2	38.51
237.0	000.0020	-0016.3	002.2	017.7	000.0002	0387.9	014.2	38.49
238.0	000.0019	-0008.9	002.1	017.6	000.0002	0387.9	014.3	38.47
239.0	000.0019	-0000.1	002.1	017.5	000.0002	0387.8	014.3	38.44
240.0	000.0019	0007.6	002.1	017.4	000.0002	0387.8	014.3	38.42
241.0	000.0019	0012.9	002.1	017.3	000.0002	0387.8	014.4	38.40
242.0	000.0018	0015.2	002.1	017.2	000.0002	0387.8	014.4	38.37
243.0	000.0018	0014.8	002.1	017.1	000.0002	0387.8	014.4	38.34
244.0	000.0018	0011.6	002.1	017.0	000.0002	0387.7	014.4	38.32
245.0	000.0018	0006.4	002.1	017.0	000.0002	0387.7	014.5	38.29
246.0	000.0019	0000.3	002.1	016.7	000.0002	0387.7	014.5	38.32
247.0	000.0021	-0005.8	002.2	016.5	000.0002	0387.7	014.5	38.35

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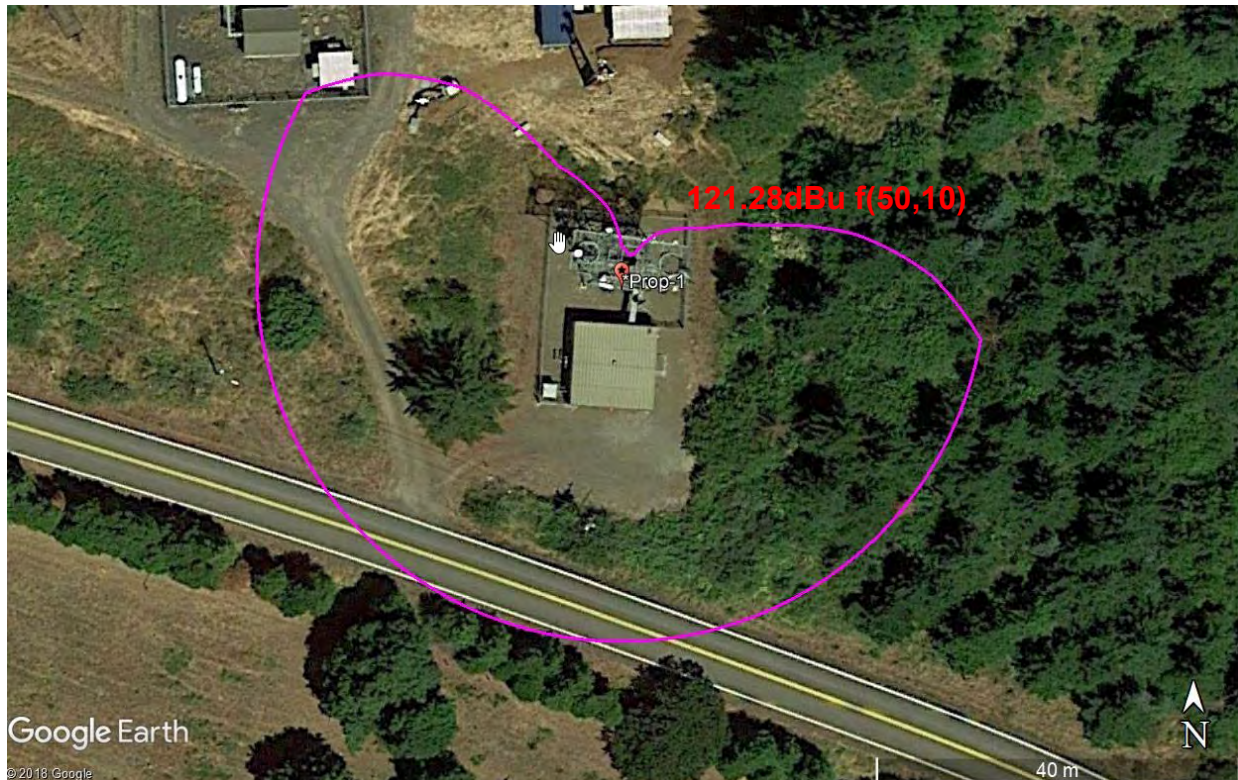
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EXHIBIT 13e

2nd - Adjacent Contour Protection vs. KUPL, Portland, OR

The “worst case” 2nd adjacent interfering contour, using the ratio method, is 121.28dBu. As shown below, there are no populated areas within this contour. All buildings are unattended transmitter shelters. The street is a minor 2-lane road, for local traffic only.



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EXHIBIT 17

ENVIRONMENTAL PROTECTION ACT / NIER ANALYSIS

The applicant proposes utilizing a new Dielectric DCRT02B50, which is a two bay antenna in a front-back outphased array. The antenna will be mounted on an existing tower structure. The proposed center of radiation is 18m, with 44w ERP.

Since the precise antenna to be employed is not modeled in FM Model (online version), the worst-case "EPA Type 1" setting was employed. FM model predicted a maximum RF exposure of $6.6\mu\text{W}/\text{cm}^2$, at 4.4 meters from the tower base. This represents 3.3% of the Maximum Permissible Exposure (MPE) of $200\mu\text{W}/\text{cm}^2$ for uncontrolled environments. Applicants are exempt from preparing an Environmental Assessment when the predicted exposure levels would be less than 5% of the FCC limits.

Also, according to 47 CFR §1.1307(b)(1) Table 1, any "Part 74 -Subpart L" facility (which includes FM translators and boosters) with an ERP greater than 100 watts, is subject to routine environmental evaluation. Since the proposed translator will operate with an ERP of less than 100 watts, it is "categorically excluded from making such studies or preparing an EA" [1.1307(b)(1)].

The applicant will ensure that the site is posted with appropriate RF exposure warning signs. The tower is completely surrounded by a tall fence and locked gates, preventing unauthorized access. If tower climbing by authorized personnel becomes necessary, transmitter power will be reduced or operation will cease, as necessary, so as to not exceed the RF exposure limits.

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