



ENGINEERING STUDY

FCC 349 –Application Modification

To Clear MX Condition- BNPFT-20180130AIW

TECHNICAL STATEMENT

This technical statement and attached exhibits were prepared on behalf of Amaturro Sonoma Media Group, LLC, ("SMG") licensee of AM radio station KSRO, 1350 kHz, Santa Rosa, CA. Facility ID #22881. This application seeks to clear an MX condition with a concurrently filed application for the same FM channel (245D) by Wine Down Media, LLC ("WDM") (BNPFT-20180129AID) in Napa, CA. The modification proposed in this application will clear the MX condition by modifying the 245D application filed by SMG. The application filed by WDM will not require modification. Therefore, with this proposal, both 245D proposals may coexist.

It is noted that with this proposal, the SMG 245D translator will operate from the same tower site as co-owned K233CM with the same primary station. It is anticipated that K233CM will very shortly file a CP Modification to BPFT-201780327ACP which will move that translator to a different tower site with very little coverage in common with the current K233CM (licensed or CP).

Facilities Proposed

Location (NAD27)	38° 19' 56.6" N Latitude, 122° 35' 41" W Longitude
Channel	245D (96.9MHz)
Tower Overall AGL Height-	8m
Tower ASR	N/A
Proposed Antenna	Dual Scala CL-FM Array
Antenna AGL Height-	8m
Site AMSL Height-	579m
ERP	75 Watts-DIRECTIONAL- Slant Pol EXHIBIT A

COMPLIANCE WITH 74.1204(a) [contour overlap]

The proposed translator on channel 245D will be fully compliant with 74.1204(a). A table showing the allocation is attached as Exhibit B and a map depicting the closest pertinent facilities is attached as Exhibit C. Also, as shown in Exhibit C, the current MX condition with 245D in Napa is cleared by this proposal.

COMPLIANCE WITH 74.1204(d) [2ND adjacent protections]

The 245D translator, as proposed is within the 54dBu service contour of KOIT, 243B which places 62.45dBu of signal at the proposed 245D translator site, also KLLC, 247B places 68.37dBu at the proposed 245D site. Although the site is on a mountain top in a very rural area, it was determined that there are two residences which required further analysis to verify compliance with 74.1204(d). Specifically, that the proposed translator would not cause the signal at either of the nearby residences to exceed 40dB above the incoming signal from KOIT or KLLC.

Exhibit F shows the Google Earth picture of the proposed site. As shown, there are two residences of interest, the one at 40degrees T is the closest to the antenna at 220 meters. Since it is downhill from the antenna, the apparent antenna height is 48m. As shown in this exhibit, the interfering contour does not reach ground at this location.

The second residence of interest is at 230deg T and is 420m from the antenna. This residence is 110m below the proposed antenna. As shown in Exhibit F, the interfering contour to this residence is also compliant in that it never reaches ground at this location,

The protection to KOIT was considered to be the most restrictive protection since KLLC places 5.9dB more signal at this location than KOIT it will be more difficult to generate a signal 40dB or greater to KLLC than to KOIT. Since the facility will be compliant with respect to KOIT, it can be inferred that KLLC will also be protected.

COMPLIANCE WITH 74.1201(g) [AM fill-in]

Exhibit D demonstrates that the proposed translator will be entirely contained within 25 miles of the KSRO transmitter and within the KSRO Daytime 2mV/m contour.

The proposed facility is not within 320km of the common border between the US and Canada or Mexico.

COMPLIANCE WITH 74.1233 [Processing requirements- Minor Change]

As demonstrated in Exhibit E, the proposed facility is compliant with rules pertaining to minor changes as the proposed facility's 60dBu contour will encompass a portion of the previously proposed 245D translator and the two facilities are mutually exclusive.

ENVIRONMENTAL EXHIBIT

The proposed translator facility will utilize a directional antenna located on an existing unregistered tower. The attachment of the proposed translator antenna will not alter the existing proposed tower structure for purposes of the Nationwide Programmatic Agreement and the NHPA Section 106.

The RF density near the tower was calculated using a worst-case type 1 "ring and stub" antenna setting at 30 watts horizontal and 75 watts vertical,

Using the FCC program "FM Model for Windows", it was calculated that the proposed antenna contributes approximately 73.2 μ W/cm² or 36.6 % of the total allowable 200 μ W/cm². The maximum was found to be 1.6 meters from the base of the tower. There are no tall buildings within 1,000m of the proposed tower.

Because the maximum contribution of the proposed translator for the uncontrolled environment is less than the 200 μ W/cm² MPE limit the facility will be in compliance with FCC guidelines.

Based upon the preceding evaluation, the proposed antenna will not cause the RF density at the tower site to exceed public exposure limits and is excluded from further Environmental Assessment under 47CFR 1.1306 and 1.1307.

The proposed new FM translator along with other users at the site will maintain an occupational safety policy and agrees to reduce power or cease operation during periods of maintenance to avoid potentially harmful exposure of personnel to non-ionizing RF radiation.

Respectfully Submitted

A handwritten signature in cursive script, reading "Bert Goldman", followed by a long horizontal flourish.

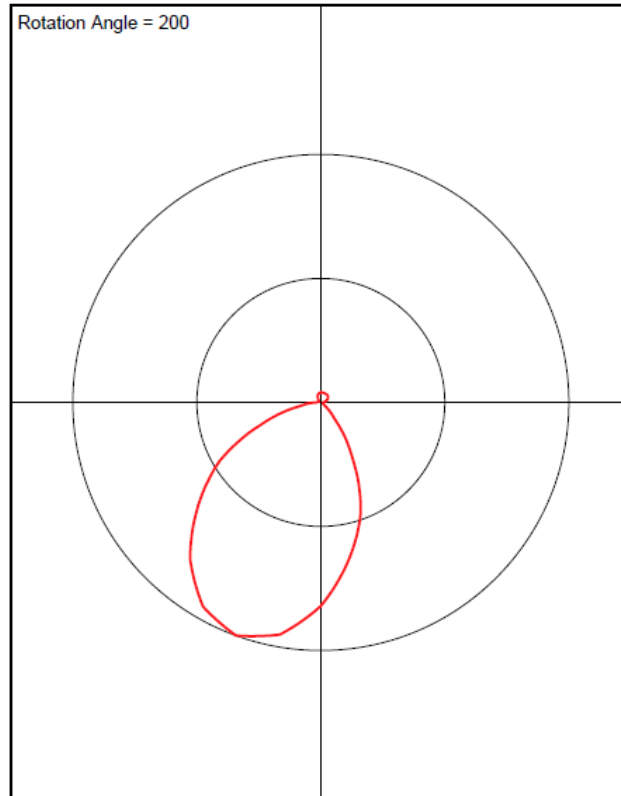
Bert Goldman
Technical Consultant

EXHIBIT A- ANTENNA PATTERN

Petaluma 245D Antenna Pattern

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	1.0
5.0	0.975
10.0	0.95
15.0	0.885
20.0	0.82
25.0	0.7325
30.0	0.645
35.0	0.5575
40.0	0.47
45.0	0.36
50.0	0.25
55.0	0.1675
60.0	0.085
65.0	0.0525
70.0	0.02
75.0	0.015
80.0	0.01
85.0	0.01
90.0	0.01
95.0	0.01
100.0	0.01
105.0	0.01
110.0	0.01
115.0	0.0125
120.0	0.015
125.0	0.02
130.0	0.025
135.0	0.0295
140.0	0.034
145.0	0.036
150.0	0.038
155.0	0.039
160.0	0.04
165.0	0.04
170.0	0.04
175.0	0.04
180.0	0.04
185.0	0.04
190.0	0.04
195.0	0.04
200.0	0.04
205.0	0.039
210.0	0.038
215.0	0.036
220.0	0.034
225.0	0.0295
230.0	0.025
235.0	0.02
240.0	0.015
245.0	0.0125
250.0	0.01
255.0	0.01
260.0	0.01
265.0	0.01
270.0	0.01
275.0	0.01
280.0	0.01
285.0	0.015
290.0	0.02
295.0	0.0525
300.0	0.085
305.0	0.1675
310.0	0.25
315.0	0.36



320.0	0.47
325.0	0.5575
330.0	0.645
335.0	0.7325
340.0	0.82
345.0	0.885
350.0	0.95
355.0	0.975

EXHIBIT B- ALLOCATION STUDY

ComStudy 2.2 search of channel 245 (96.9 MHz Class A) at 38-19-56.6 N, 122-35-41.0 W.

CALL	CITY	ST CHN CL	DIST	SEP	BRNG	CLEARANCE
NEW	SONOMA	CA 245 D	14.04	0.00	142.3	-32.75 dB Current APP
KLLC	SAN FRANCISCO	CA 247 B	54.10	69.00	171.0	-14.49 dB Exhibit F
KOIT	SAN FRANCISCO	CA 243 B	65.25	69.00	168.9	-8.95 dB Exhibit F
KNOB	HEALDSBURG	CA 244 A	39.44	72.00	306.0	0.85 dB Exhibit C
KQEA-LP	SAN FRANCISCO SUNSET	CA 245 LP100	65.25	67.00	168.9	2.81 dB Exhibit C
KQEB-LP	SAN FRANCISCO	CA 245 LP100	61.89	67.00	165.1	3.54 dB
KQEB-LP	SAN FRANCISCO	CA 245 LP100	61.89	67.00	165.1	3.96 dB
NEW	NAPA	CA 245 D	25.65	0.00	65.9	6.32 dB CLEARS MX
KSEG	SACRAMENTO	CA 245 B	103.59	178.00	69.8	10.58 dB
951206MD	HEALDSBURG	CA 244 A	48.43	72.00	336.4	12.73 dB
KWAV	MONTEREY	CA 245 B	217.32	178.00	156.4	16.21 dB
K298AZ	SANTA ROSA	CA 298 D	18.16	0.00	357.0	18.2
KGPC-LP	OAKLAND	CA 245 LP100	66.58	67.00	153.8	19.35 dB
K298AZ	SANTA ROSA	CA 298 D	20.43	0.00	343.5	20.4
KSEG	SACRAMENTO	CA 245 B	103.59	178.00	69.8	23.24 dB
KEPT-LP	HAYWARD, CALIFORNIA	CA 245 LP100	98.70	67.00	147.1	27.93 dB

CDBS AS OF 6/11/2018

EXHIBIT C Pertinent Protection Contours

245D APPL MOD 74.1204(a) Compliance

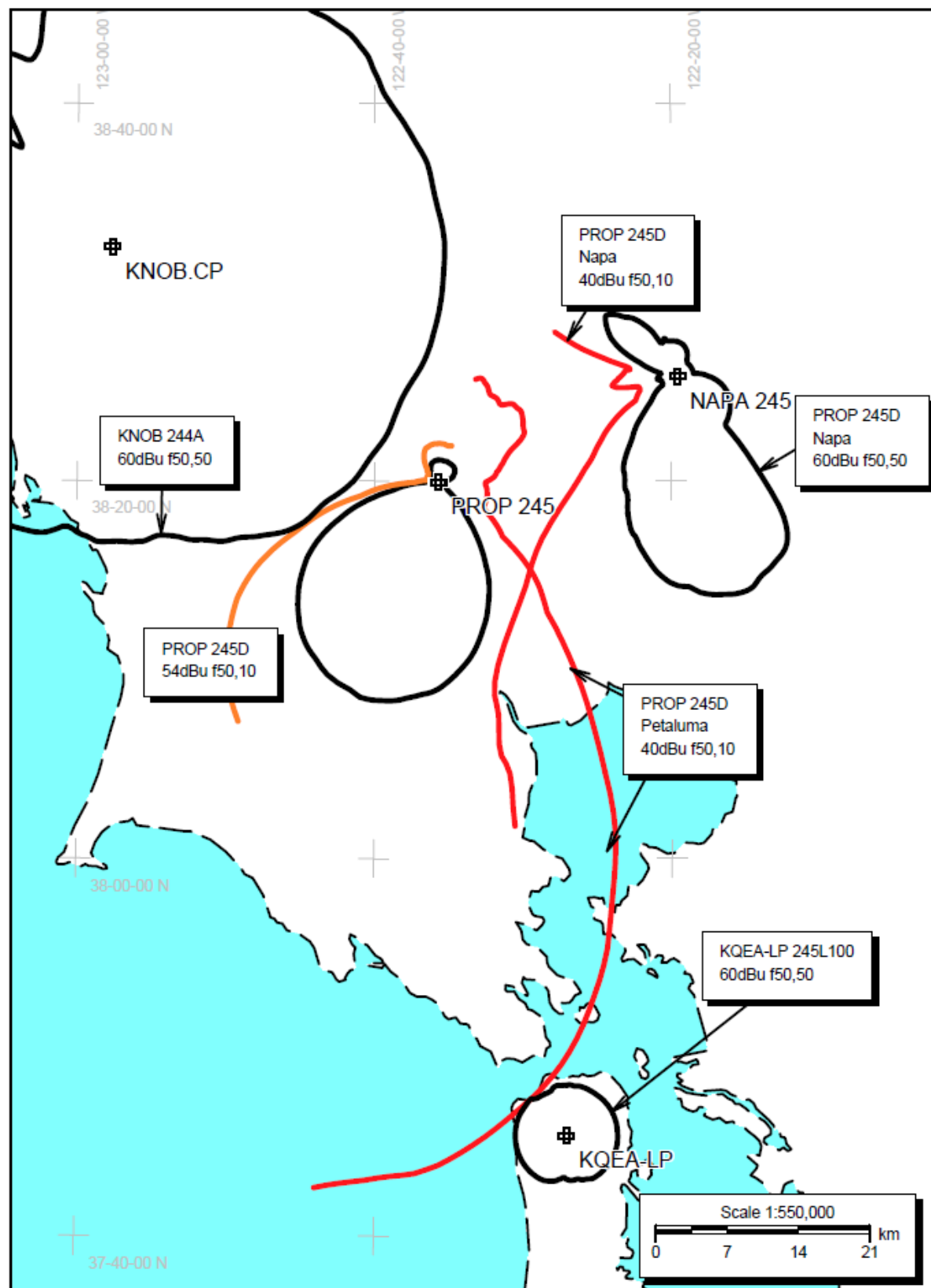


EXHIBIT D - 74.1201(g) Compliance

Prop 245D 74.1201(g) Compliance

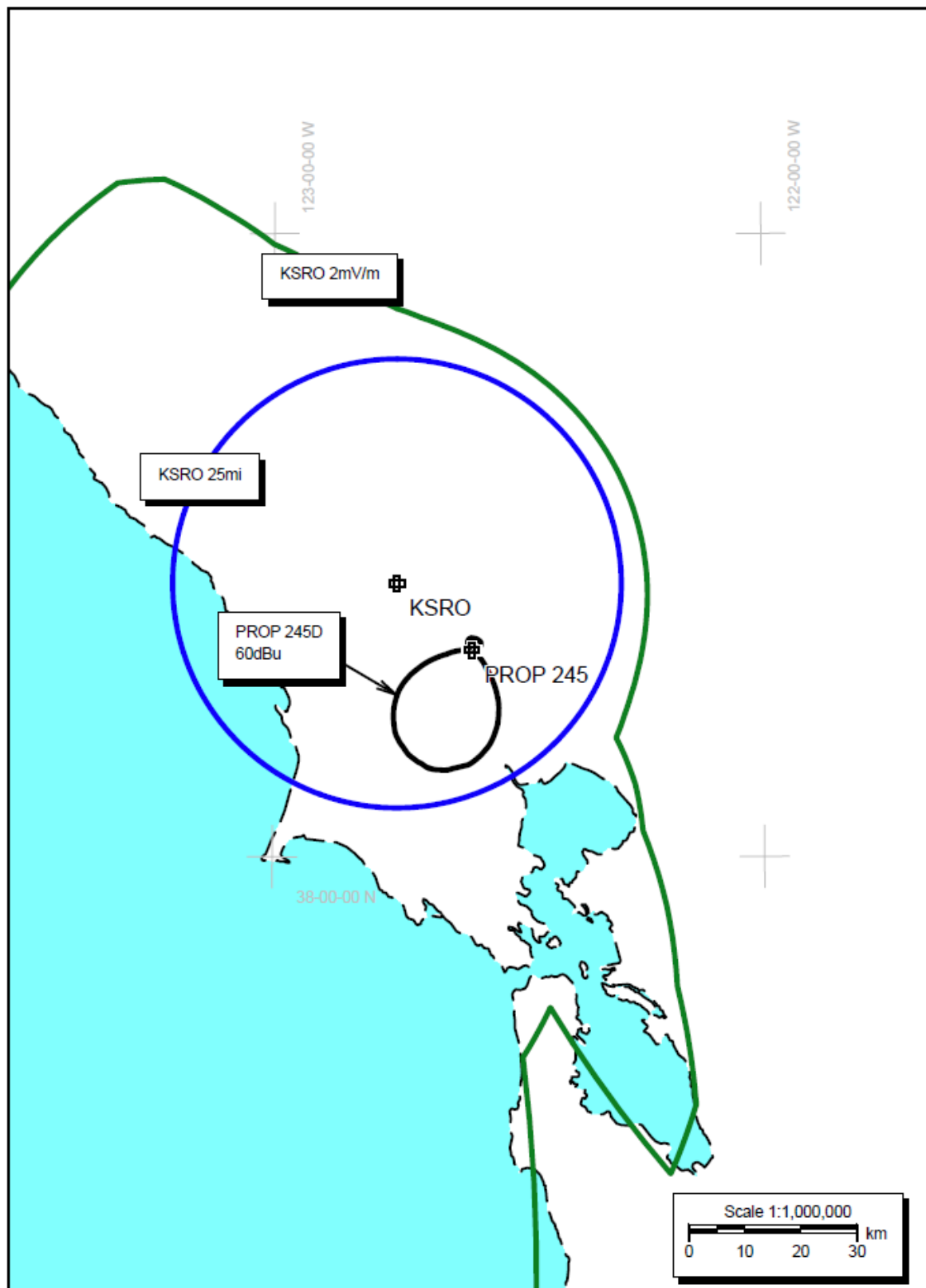


EXHIBIT E- 74.1233 Compliance

Prop 245D- 73.1233 Compliance

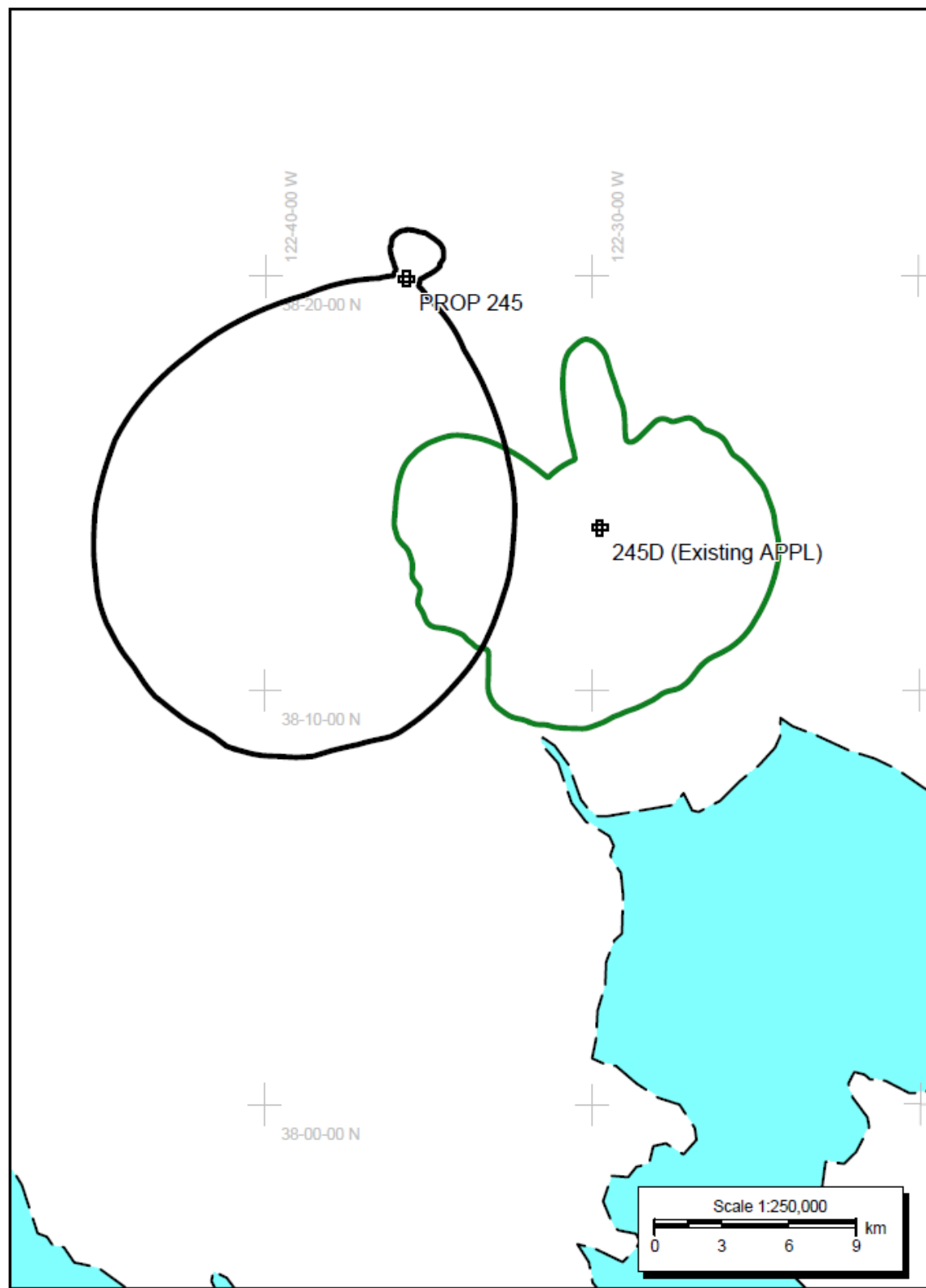


EXHIBIT F- 74.1204(d) 2nd Adjacent Protection, KOIT 243B, KLLC 247B



Analysis to Residence @ 40deg T, 220m distance, 543m AMSL (48m Apparent AGL)

PROP 245D Petaluma, CA, Showing Protection to KOIT
Geographic Coordinates: N.38 1 9 56.6 W.122 2 5 41.0
74.1204(d) Study - Using NED 03 SEC Terrain Database
Translator or LPFM Maximum Licensed ERP = 0.075
Translator or LPFM Antenna Height AG = 48 Meters
K233CM Antenna Model = 2-CL-FM V STACK VEP PAT

Protected Station's Contour = 62.45312 dBu
Translator's or LPFM's full Interference contour 102.45312

Review Azimuth = 40 Degrees True
Relative Field on the horizon at Review Azimuth = 0.040
Translator/LPFM ERP on the horizon at Review Azimuth = 0.0 kW
Distance between stations = 65.4 km
Protected Station= KOIT, 24 kW, 511 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	0.04	0.0030	091.6019	091.6019	048.000
05.00	0.958	0.04	0.0028	087.7088	087.3751	040.356
10.00	0.915	0.04	0.0025	083.8158	082.5424	033.446
15.00	0.802	0.04	0.0019	073.4648	070.9615	028.986
20.00	0.689	0.04	0.0014	063.1137	059.3075	026.414
25.00	0.547	0.04	0.0009	050.1063	045.4117	026.824
30.00	0.405	0.04	0.0005	037.0988	032.1285	029.451
35.00	0.277	0.04	0.0002	025.3737	020.7849	033.446
40.00	0.149	0.04	0.0001	013.6487	010.4555	039.227
45.00	0.086	0.04	0.0000	007.8778	005.5704	042.430
50.00	0.023	0.04	0.0000	002.1068	001.3543	046.386
55.00	0.06	0.04	0.0000	005.4961	003.1524	043.498
60.00	0.097	0.04	0.0000	008.8854	004.4427	040.305
65.00	0.086	0.04	0.0000	007.8778	003.3293	040.860
70.00	0.075	0.04	0.0000	006.8701	002.3497	041.544
75.00	0.05	0.04	0.0000	004.5343	001.1736	043.620
80.00	0.024	0.04	0.0000	002.1984	000.3818	045.835
85.00	0.02	0.04	0.0000	001.7862	000.1557	046.221
90.00	0.015	0.04	0.0000	001.3740	000.0000	046.626

Analysis to Residence @ 230deg T, 420m distance, 477m AMSL (110m Apparent AGL)

245D PROP Petaluma , CA, Showing Protection to KOIT
Geographic Coordinates: N.38 1 9 56.6 W.122 2 5 41.0
74.1204(d) Study - Using NED 03 SEC Terrain Database
Translator or LPFM Maximum Licensed ERP = 0.075
Translator or LPFM Antenna Height AG = 110 Meters
K233CM Antenna Model = 2-CL-FM V STACK VEP PAT

Protected Station's Contour = 62.45312 dBu
Translator's or LPFM's full Interference contour 102.45312

Review Azimuth = 40 Degrees True
Relative Field on the horizon at Review Azimuth = 0.040
Translator/LPFM ERP on the horizon at Review Azimuth = 0.0 kW
Distance between stations = 65.4 km
Protected Station= KOIT, 24 kW, 511 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	0.04	0.0030	091.6019	091.6019	110.000
05.00	0.958	0.04	0.0028	087.7088	087.3751	102.356
10.00	0.915	0.04	0.0025	083.8158	082.5424	095.446
15.00	0.802	0.04	0.0019	073.4648	070.9615	090.986
20.00	0.689	0.04	0.0014	063.1137	059.3075	088.414
25.00	0.547	0.04	0.0009	050.1063	045.4117	088.824
30.00	0.405	0.04	0.0005	037.0988	032.1285	091.451
35.00	0.277	0.04	0.0002	025.3737	020.7849	095.446
40.00	0.149	0.04	0.0001	013.6487	010.4555	101.227
45.00	0.086	0.04	0.0000	007.8778	005.5704	104.430
50.00	0.023	0.04	0.0000	002.1068	001.3543	108.386
55.00	0.06	0.04	0.0000	005.4961	003.1524	105.498
60.00	0.097	0.04	0.0000	008.8854	004.4427	102.305
65.00	0.086	0.04	0.0000	007.8778	003.3293	102.860
70.00	0.075	0.04	0.0000	006.8701	002.3497	103.544
75.00	0.05	0.04	0.0000	004.5343	001.1736	105.620
80.00	0.024	0.04	0.0000	002.1984	000.3818	107.835
85.00	0.02	0.04	0.0000	001.7862	000.1557	108.221
90.00	0.015	0.04	0.0000	001.3740	000.0000	108.626