

ENGINEERING EXHIBIT
IN SUPPORT OF AN
APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT
FCC FILE NO. BP - 20020206AAH
KENT - HONOLULU, HAWAII
1180 kHz - 6.0 kW D/ 4.49 kW N - ND-U
Facility ID: 13985

Applicant: Salem Media of Hawaii, Inc.

January, 2004

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Section III-A of FCC Form 301

Engineering Statement of Cynthia M. Jacobson

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**ENGINEERING STATEMENT OF CYNTHIA M. JACOBSON
IN SUPPORT OF AN
APPLICATION FOR MODIFICATION CONSTRUCTION PERMIT
(FCC FILE NO. BP-20020206AAH)
KENT – HONOLULU, HAWAII
1180 kHz - 6.0 kW D/4.49 kW N - ND-U
Facility ID: 13985**

Applicant: Salem Media of Hawaii, Inc.

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Registered Professional Engineer in the Commonwealth of Virginia, Registration No. 027914.

GENERAL

This office has been authorized by Salem Media of Hawaii, Inc. ("Salem"), assignee of the license of standard broadcast station KENT, Honolulu, Hawaii, to prepare this statement, FCC Form 301 (Section III-A), and the attached engineering exhibits in support of an Application for Modification of Construction Permit (FCC File No. BP-20020206AAH), seeking authority to change frequency from 1170 kHz to 1180 kHz. No other changes are proposed.

TRANSMITTER SITE AND VICINITY

The transmitter site specified herein is the same as authorized in the outstanding

STATEMENT OF CYNTHIA M. JACOBSON
KENT – HONOLULU, HAWAII
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Construction Permit, FCC File No. BP-20020206AAH. The geographic coordinates of the non-directional antenna are:

21 - 26 - 18 North Latitude

157 - 59 - 29 West Longitude

The site photographs depicting the topography in the vicinity of the transmitter site are contained in FCC Files. The site elevation was obtained from data on file with the FCC.

ANTENNA SYSTEM

The antenna system consists of one tower. The existing tower is a folded unipole, steel radiator or uniform cross-section, guyed tower, 77.0 electrical degrees.

GROUND SYSTEM

The ground system is comprised of 120 equally spaced copper radials, 64.1 meters in length.

BLANKETING AND STATION INTERACTION

The present and proposed daytime and nighttime 1000 mV/m contours are depicted in Figure 1. The population within the proposed KENT 1000 mV/m contour is less than 300 persons. In response to all complaints of blanketing interference, the applicant will undertake steps to mitigate the blanketing effects in accordance with the requirements of Section 73.88.

The proposed antenna site is located greater than 3 kilometers from other area AM stations with the exception of KJPN with which “diplexing” is proposed. There are no operating FM stations or TV stations located within 10 kilometers of the proposed site. It is expected that no detrimental interaction will occur with any station due to the frequency change of KENT.

PROTECTION OF FCC MONITORING STATION

An FCC monitoring station, referred to as the “Honolulu Office,” is located in Waipahu, Hawaii. The 10 mV/m limit at the FCC monitoring station as required by Section 73.1030(c) of the Rules is exceeded. The current FCC specified limit for KENT is 40 mV/m. Therefore, it requested that KENT retain the specified maximum limit of 40 mV/m. It is expected that no negative impact will occur since KENT is only requesting a 10 kHz frequency change.

COVERAGE CONTOURS

Field strength contours were calculated using the “equivalent distance” method for paths consisting of more than one conductivity. All conductivity data employed in the calculation of field strength contours was obtained from FCC Figure M-3.

The present and proposed daytime service contours are shown in Figures 2 and 3. The present and proposed 0.5 mV/m coverage contours are shown in Figure 4.

The present and proposed nighttime service contours are shown in Figure 7.

Neither the daytime nor the nighttime contour encompasses the entire city of license. Therefore, it is respectfully requested that a waiver of section 73.24(i) of the Rules be granted.

JUSTIFICATION OF WAIVER

As shown in Figures 3 and 7, the proposed coverage does not significantly differ from the present coverage during the daytime or nighttime. Additionally, the actual NIF limit is lowered, offering a slightly larger nighttime service contour as shown in Figure 7.

Hawaii is the only state in the Union with no incorporated places recognized by the Census Bureau. All places shown for Hawaii are Census Designated Places (“CDP”). By agreement with the State of Hawaii, the Census Bureau does not show data separately for the city of Honolulu. The city of Honolulu is coextensive with Honolulu County. CDP’s are densely settled areas of population that are identifiable by name, but are not legally incorporated. CDP’s have no legal status, nor do they have elected officials to serve municipal functions. As the Commission recognized in *Family Media, Inc.*, 102 F.C.C.2d 759, ¶ 7 (ALJ 1985):

The only governmental entities in the State of Hawaii are its five counties since there are no communities or places with organized municipal governments. The geographical boundaries of the City of Honolulu are coextensive with the County of Honolulu; that is, the people of the city and county of Honolulu constitute a single body politic incorporated under the name “City and County of Honolulu” pursuant to the Articles of Incorporation of their revised charter approved on November 7, 1972. The coextensive City and County of Honolulu is comprised of the entire Island of Oahu and all other islands in the State of Hawaii which are not included within any other county in the State. The other islands include certain largely uninhabited

islands extending approximately 1,400 – 1,500 miles westward from the Island of Oahu to Kure Island.

Both the present and proposed technical facility fail to meet the requisite service to the city of license, which is actually the County of Honolulu (or the entire Island of Oahu), see Figure 3. The present 5.0 mV/m daytime contour covers 50.6% of the Island of Oahu, while the proposed 5.0 mV/m daytime contour covers 45.8%. A 4.8% decrease in 5.0 mV/m coverage of Oahu will result from the proposed operation.

Likewise, Figure 7 depicts the nighttime interference-free contours of both the present and proposed facility. Neither contour fully encompasses the community of license (the entire Island of Oahu). The 5.0 mV/m contour is higher than the proposed NIF of 1.57 mV/m and the present NIF of 1.96 mV/m¹, thus the 5.0 mV/m contour becomes the community service contour. The present 5.0 mV/m nighttime contour covers 45.2% of the Island of Oahu, while the proposed 5.0 mV/m contour covers 40.7%. The proposed 5.0 mV/m contour will decrease the coverage of the Island of Oahu by 4.5% when compared to the present 5.0 mV/m nighttime contour.

It should be noted that this predicted loss in service is due to the anomaly of the FCC's groundwave prediction method. The change in frequency from 1170 kHz to 1180 kHz results in contour predictions using Figure 14 being compared to predictions using Figure 15 of 73.184 of the Rules. If necessary, a waiver of Section 73.24(i) of the Rules is respectfully requested.

¹ The present NIF covers 81.3% and the proposed NIF covers 84.6% of the Island of Oahu.

Due to the extremely rugged terrain in the Hawaiian Islands, very few tower sites exist. The herein frequency change is to better accommodate the use of this site for a duplex operation. As can be noted over the years, tower sites are becoming more difficult to secure on the Hawaiian Islands.

Therefore, it is submitted that the public interest would be served by a waiver of Section 73.24(i) of the Rules and grant of the KENT proposal described herein.

DAYTIME ALLOCATION STUDY

There is one third-adjacent channel within a distance to warrant a daytime allocation study. As shown in Figure 5, the proposed facility will not have a negative effect on the third-adjacent station.

NIGHTTIME ALLOCATION STUDY

The frequency of 1180 kHz is a US Class A channel. WHAM, Rochester, New York is the Class A station of concern. Due to the distance separation between WHAM and the proposed facilities of KENT, an exhibit is not attached herein. The proposed night facilities would have to radiate in excess of 2500 mV/m for the 0.025 mV/m - 10% skywave contour to overlap the 0.5 mV/m - 50% skywave contour of WHAM. KENT proposes a radiation of 630.39 mV/m, less than the permitted 2500 mV/m. Therefore, no overlap of skywave contours will occur.

The proposed facility of KENT will not raise the limit of any station. Figure 6 is a

tabulation of RSS calculations of co-channel and first-adjacent stations in which KENT may impact. A review of these studies on a station-by-station basis finds that the proposed KENT nighttime facility is compliant with current Commission allocation standards.

FAA NOTIFICATION

Since KENT is proposing to utilize an existing tower without physical alteration, notification to the Federal Aviation Administration is not necessary.

The proposed antenna is an existing structure and less than 60 meters; therefore Tower Registration is not necessary.

ENVIRONMENTAL CONSIDERATIONS

The proposal described herein does not involve high-intensity lighting as specified in Section 1.1307(a)(8) of the Rules, nor will it result in human exposure to radiofrequency radiation in excess of the standards specified in Section 1.1307(b).

RADIOFREQUENCY IMPACT

On January 1, 1986, the FCC amended its Rules to implement the National Environmental Policy Act of 1969 (NEPA). This amendment established RF radiation protection guidelines to be used to determine if potentially harmful RF exposure is possible from an FCC-regulated transmission facility. Effective October 15, 1997, the FCC adopted revised guidelines and procedures for evaluating environmental effects of RF emissions.

These revised guidelines incorporate two tiers of exposure limits based on whether exposure occurs in a “controlled” (occupational) situation or an “uncontrolled” (general population) situation. The FCC has also revised OET Bulletin No. 65 entitled, “Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields,” to aid in the radiation exposure analysis. This bulletin, as well as other current literature, provides detailed information for conducting an analysis including mathematical equations that can be used to determine compliance with the Commission’s guidelines.

The proposed KENT facility will be co-located with the 1370 kHz operation of KJPN, Pearl City, Hawaii. Thus, the proposed site is considered a multiple use site.

CALCULATION METHODS

Verification of compliance with FCC-Specified guidelines for human exposure to RF radiation was obtained from OET Bulletin No. 65. The proposed KENT facility will operate on 1180 kHz with a worst-case power of 6.0 kW. To obtain distance to compliance with the guidelines, Table 1, Section 1 of Supplement A was used. Radio Station KJPN is licensed to operate on 1370 kHz with a power of 6.2 kW. Table 2, Section 1 of Supplement A was used for KJPN. To comply with FCC limits, the minimum fencing requirement is 6 meters and 2 meters for KENT and KJPN, respectively.

A fence of at least 8 meters (26.2 feet) from the base of the tower will be constructed. The fencing of 8 meters will satisfy both the occupational/controlled and general population/uncontrolled MPE limits. The fence will be locked to preclude public

access to the tower, and appropriate warning signs will also be posted. If requested by the Commission, the applicant will conduct electromagnetic field strength measurements to establish that the MPE limits specified by the FCC are not exceeded.

It is submitted that the proposed frequency change of KENT to the KJPN system will not constitute a potential hazard to the quality of the human environment. Accordingly, the KENT proposal, as described herein, should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Rules.

OCCUPATIONAL SAFETY

Access to the KENT/KJPN antenna supporting tower base will be restricted to authorized maintenance personnel only. To ensure protection of station personnel or tower contractors working in the vicinity of the tower, the stations will reduce power or cease operation during times of service or maintenance of the transmission systems when necessary to avoid potentially harmful exposure to personnel. Joint procedures will be followed by both stations during times of service or maintenance of the transmission systems.

In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

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PAGE 10

CONCLUSION

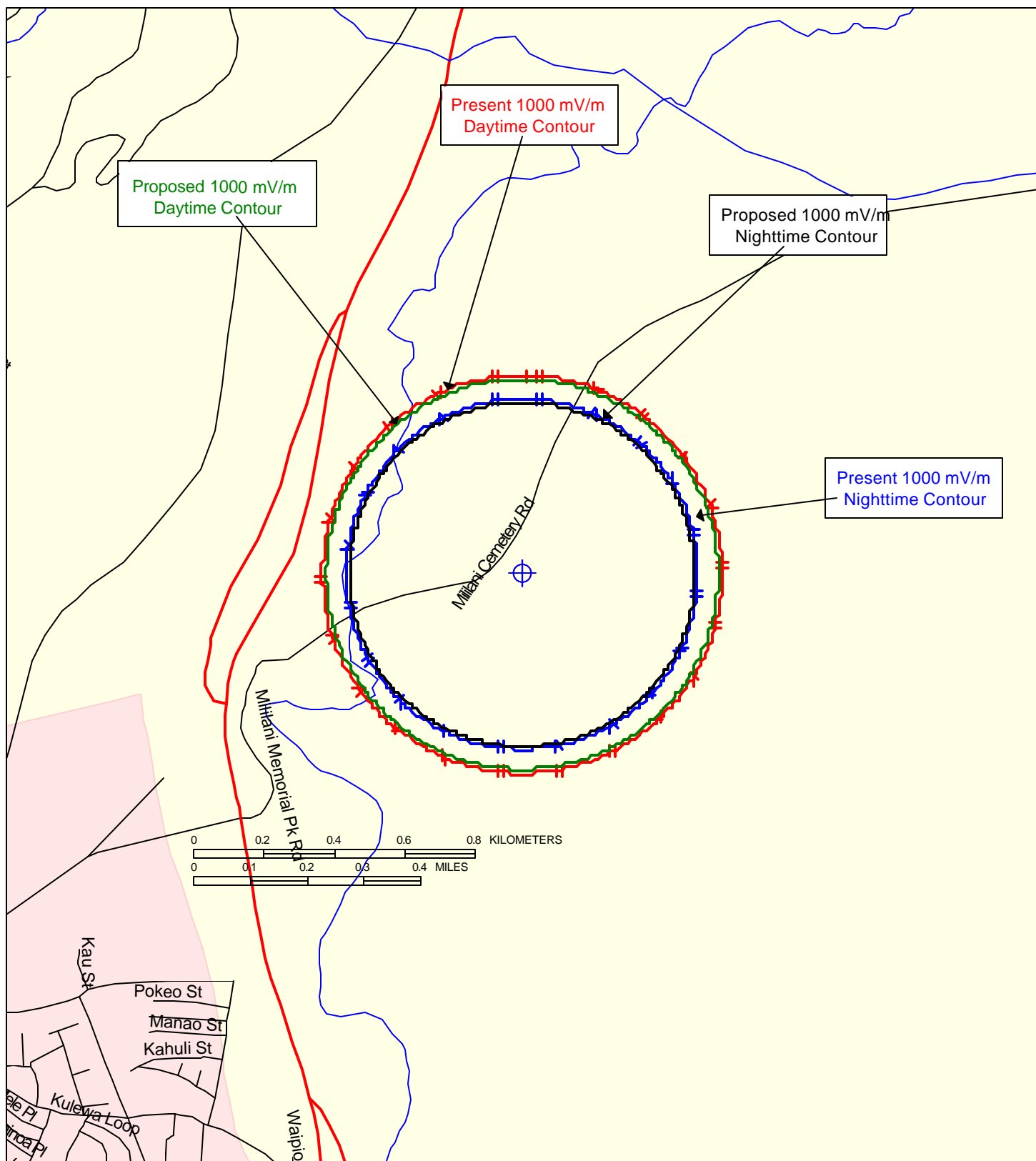
It is submitted that the proposed technical facilities described herein comply with the technical standards of the Commission's Rules and Regulations.

This statement, Section III-A of FCC Form 301, and the attached exhibits were prepared by me or under my direct supervision, and are believed to be true and correct, under penalty of perjury.

DATED: January 2, 2004

Cynthia M. Jacobson, P.E.

FIGURE 1



CARL T. JONES
CORPORATION

PRESENT & PROPOSED 1000 mV/m
DAYTIME AND NIGHTTIME CONTOURS
KENT(AM) - HONOLULU, HAWAII
PRESENT: 1170 kHz - 6.0 kW D / 4.49 kW N - ND-U
PROPOSED: 1180 kHz - 6.0 kW D / 4.49 kW N - ND-U
JANUARY, 2004

FIGURE 2

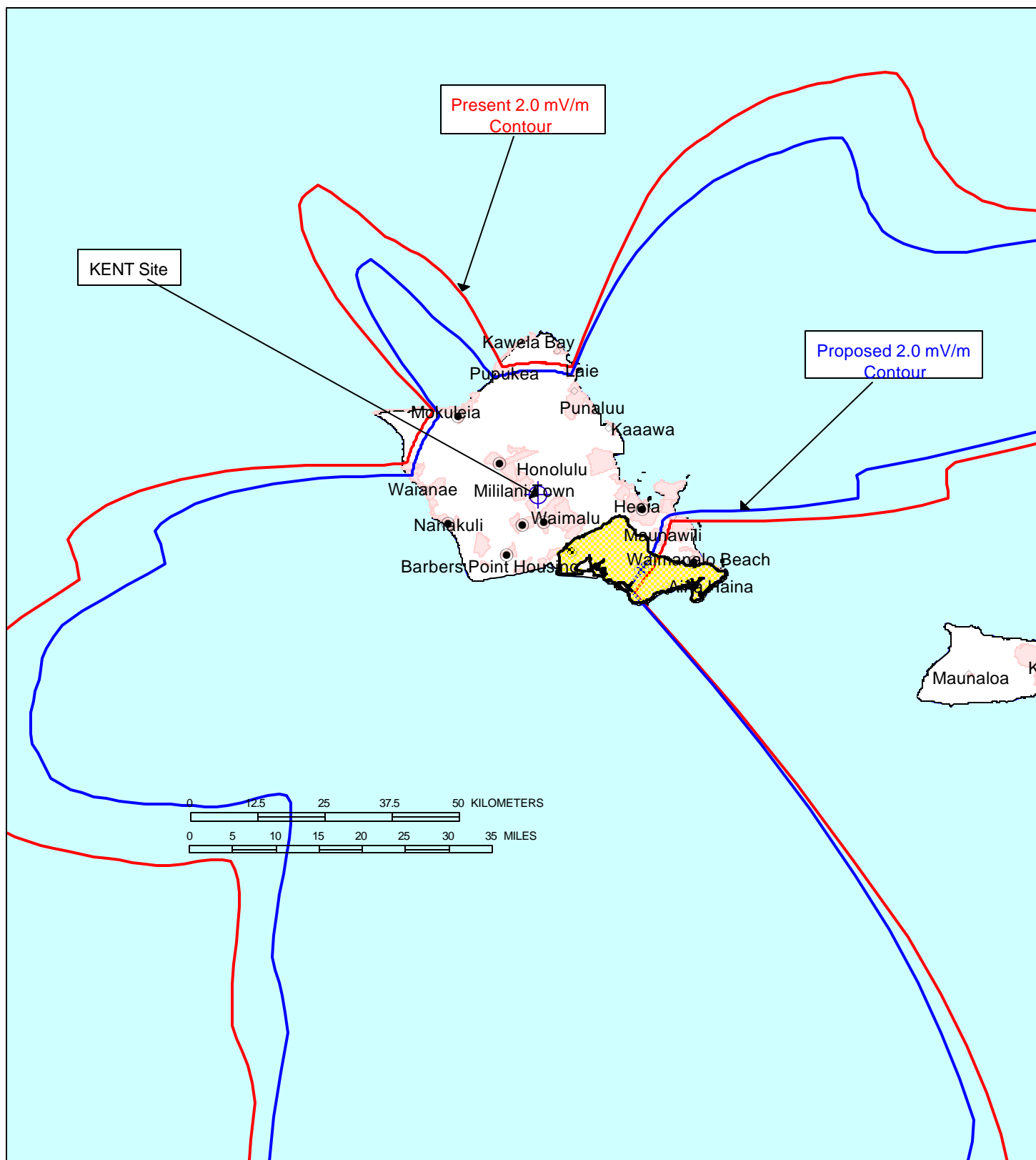


FIGURE 3

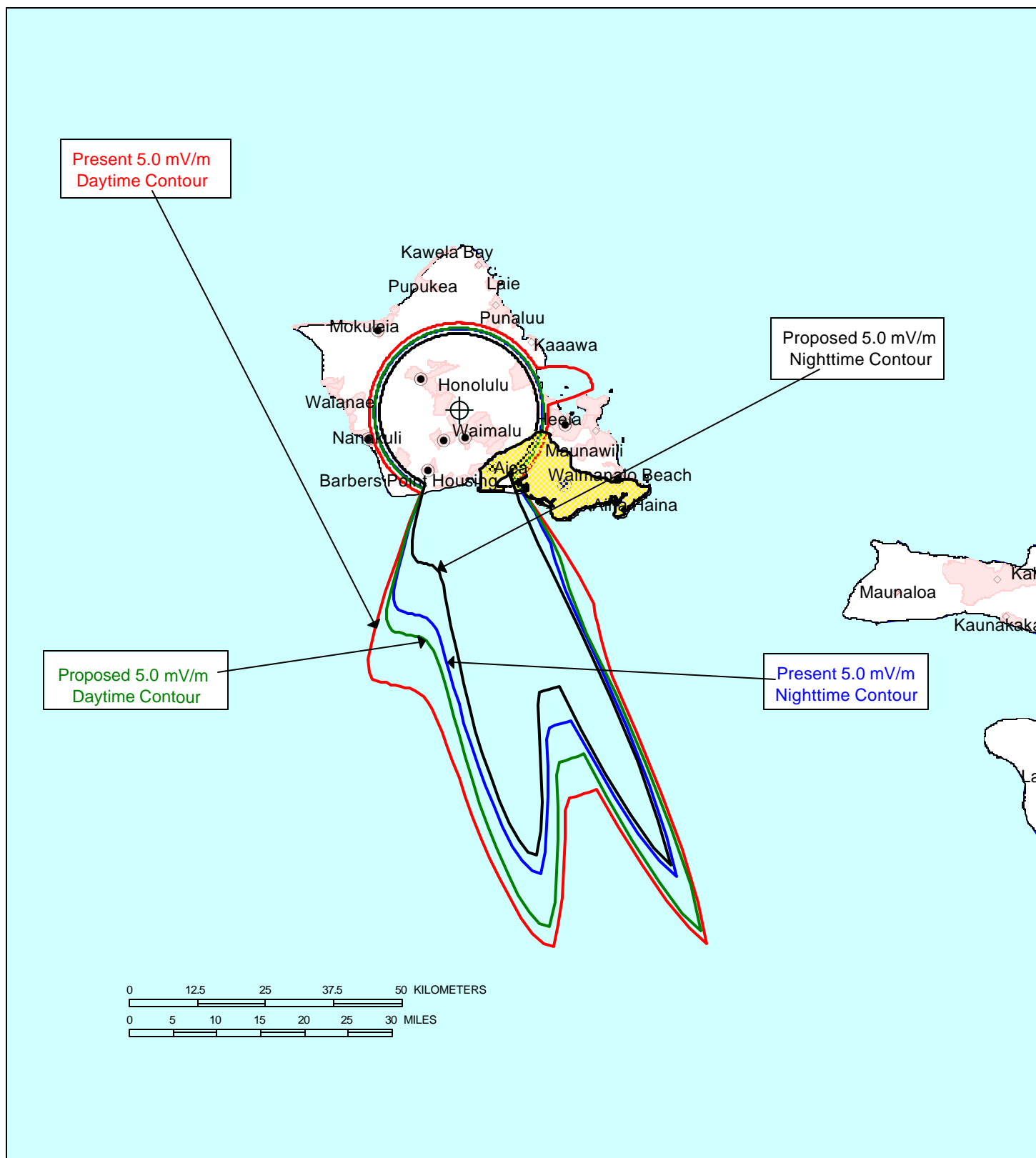


FIGURE 4

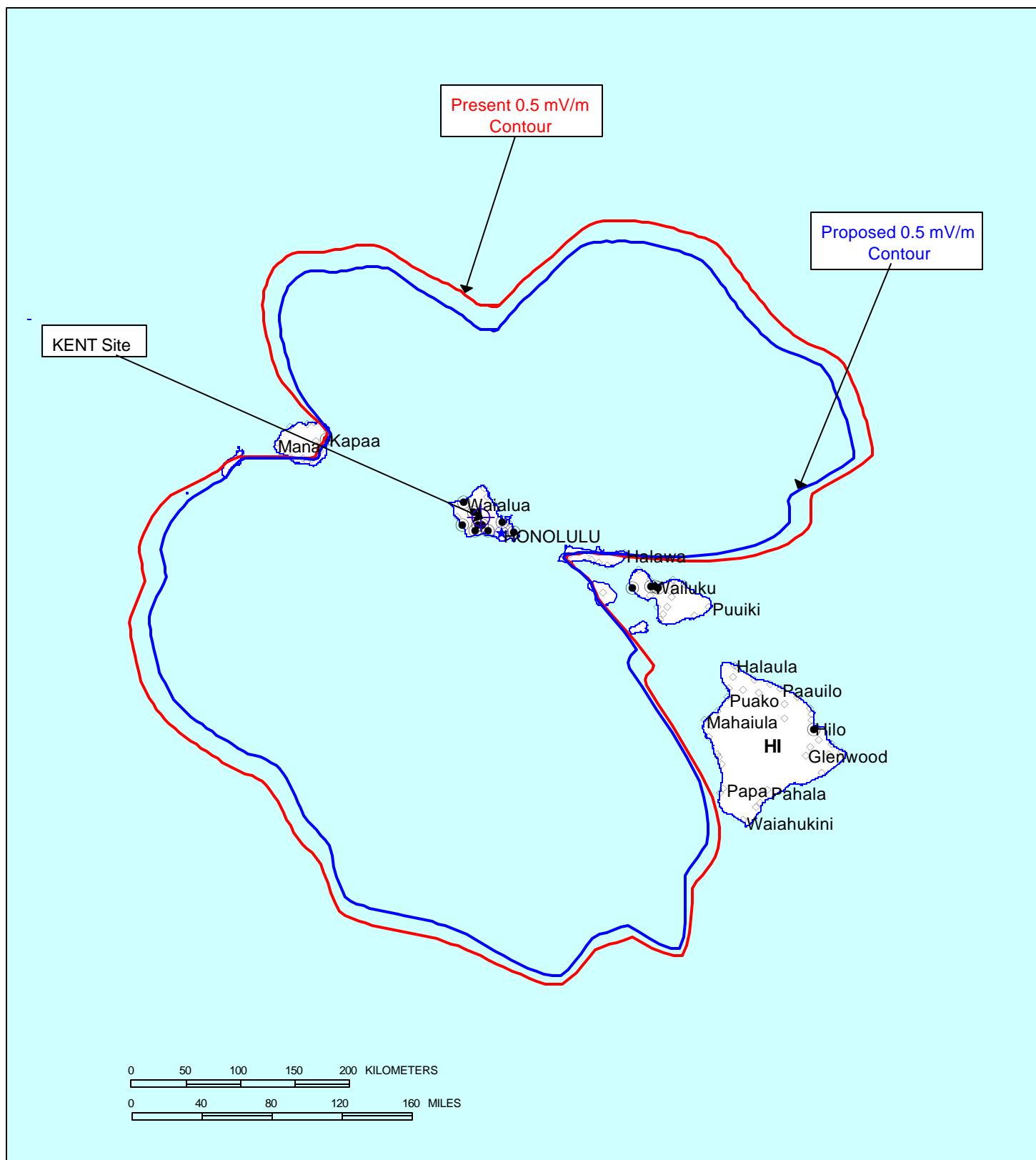
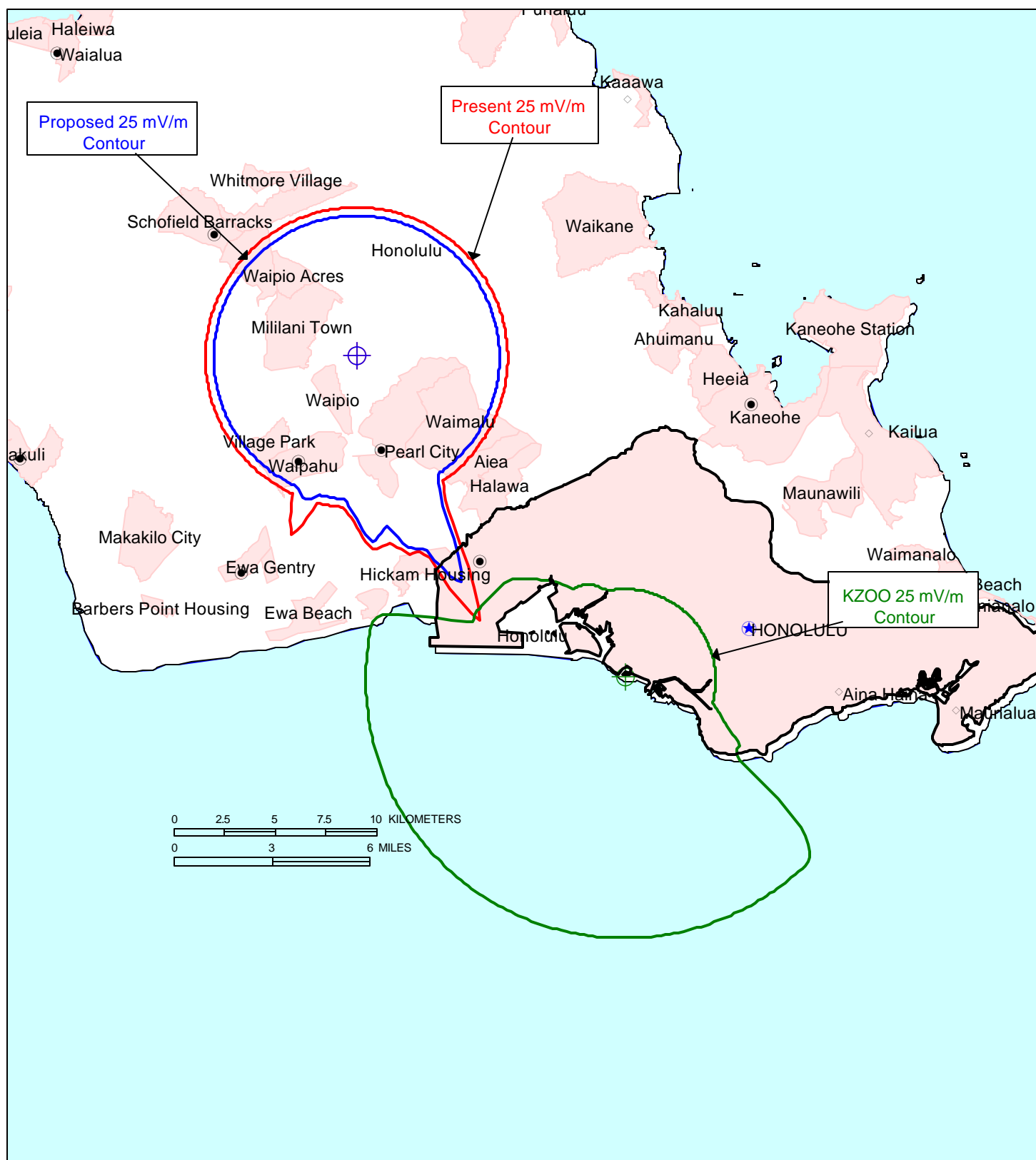


FIGURE 5



Frequency: 1180

Explanation of "CODE" which appears on the right edge of this report:

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CODE
123456
||||| |-- [6] Corresponding expanded band domestic status (if
|||||         this is a lower band station)
||||| |-- [5] Not included in RSS Calculation because:
|||||         (1) Deleted Domestically
|||||         (2) Application
|||||         (3) Petition for Expanded Band
|||||         (4) Objected
|||||         (5) B-List or D-List
|||||         (6) Class D station (formally 2S or 3S)
|||||         (7) Cuban Operation
|||||         (8) Multiple Entry
|||||         (9) Test record
||||| ---- [4] FCC Dummy Data Code
|||||         (B) Some data assumed; (V) Vertical antenna parameters assumed;
|||||         (1) Vertical and horizontal antenna parameters assumed;
|||||         (2) Coordinates are assumed
||||| ---- [3] FCC Bad Record Code
|||||         (B) Some data known to be bad; (V) Bad vertical antenna parameters;
|||||         (1) Bad coordinates; (2) Bad horizontal antenna parameters;
|||||         (3) Bad horizontal and vertical antenna parameters
||||| ---- [2] IFRB Notified Status
|||||         (A) Negotiated Priority; (P) Proposed; (T) Informal Proposal
|||||         (O) Operating; (U) Un-notified; (Z) Test Record
||||| ---- [1] Domestic Status
|||||         (C) Construction Permit; (L) License; (A) Application;
|||||         (D) Deleted; (M) Petition for Expanded Band;
|||||         (P) Planned expanded band; (T) Test;
|||||         (S) Petition for expanded band w/ stereo

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KENTPRO 1180 kHz  HONOLULU, HI US -      4.4900 kW    297.50 mV/m @ km    Dom Cl:    Dom Stat:
N 21-26-18  W 157-59-29                Hours:      Mode: ND    Reg2 Cl:    Not stat:
PROPOSED STATION

```

No.	Field	Phase	Spacing	Orient	Height	Ref Top/SW	A	B	C	D
1	1.0000000	.0000	.0000	.0000	77.00	0 0	.00	.00	.00	.00

SUMMARY OF LIMITS TO KENTPRO 1180 kHz			HONOLULU, HI US				4.4900 kW		297.50 mV/m @ km		Dom Cl:	Dom Stat:	
N 21-26-18		W 157-59-29	E(Nom): .0000				Hours:	Mode: ND		Reg2 Cl:	Not stat:		
Call	City	St Co	Latitude (D-M-S)	Longitude (D-M-S)	Az (Deg)	Dist (km)	Min/Max (Deg)(Deg)	E(Hor) (mV/m)	E(Vert) (mV/m)	E(Sky) (mV/m)	Limit (mV/m)	RSS (mV/m)	Code 123456
-----/-----													
KERI	WASCO-GREENACRE	CA US	N 35-34-17	W 119-19-26	257.82	4059.6	.00/.00	1485.58	1485.58	.0052707	1.5660	1.566	LO
NEW	JACKSONVILLE	OR US	N 42-17-44	W 122-48-15	245.75	4006.9	.00/.00	1487.32	1487.32	.0048726	1.4494		AP 2
NEW	JACKSONVILLE	OR US	N 42-17-44	W 122-48-15	245.75	4006.9	.00/.00	1487.32	1487.32	.0048726	1.4494		AP 2
- KENT	HONOLULU	HI US	N 21-17-08	W 157-48-08	310.97	25.9	79.73/83.75	630.57	86.67	.5160155	.8944		LO
-----50% Exclusion-----													
CB 118	SANTIAGO 6	CI S	33-21-00	W 070-40-00	289.50	11061.3	.00/.00	2675.13	2675.13	.0012194	.6524	1.696	O
KOFI	KALISPELL	MT US	N 48-11-52	W 114-15-03	248.18	4879.9	.00/.00	1024.79	1024.79	.0025967	.5322	1.778	LO
NEW	TRUCKEE	CA US	N 39-19-51	W 120-10-36	252.19	4095.1	.00/.00	464.82	464.82	.0048588	.4517		AP 2
KGOL	HUMBLE	TX US	N 30-08-21	W 095-17-24	277.01	6276.7	.00/.00	1152.42	1152.42	.0019414	.4475		AP 2
-----25% Exclusion-----													
NEW	MEDFORD	OR US	N 42-18-00	W 122-49-00	245.73	4006.1	.00/.00	421.77	421.77	.0048744	.4112		P
TGT	SONORA	GT	N 14-32-00	W 090-37-00	287.08	7116.6	.00/.00	978.60	978.60	.0020102	.3934		O 5
+ KEX	PORTLAND	OR US	N 45-25-20	W 122-33-57	242.26	4176.5	.00/.00	4396.75	4396.75	.0041835	.3679		LO
+ KEX	PORTLAND	OR US	N 45-25-20	W 122-33-57	242.26	4176.5	.00/.00	4396.75	4396.75	.0041835	.3679		AP 2
XEFR1	MAGDALENA MIXHU	DF MX	N 19-24-04	W 099-04-56	283.07	6106.3	.00/.00	665.97	665.97	.0026949	.3589		P 4
KLAY	LAKEWOOD	WA US	N 47-09-00	W 122-24-38	240.50	4279.0	.00/.00	455.52	455.52	.0038186	.3479		LO
HJGK	BUCARAMANGA	CO	N 7-05-00	W 073-07-00	290.82	9192.5	.00/.00	1383.99	1383.99	.0011629	.3219		O
WHAM	ROCHESTER	NY US	N 43-04-55	W 077-43-30	279.86	7629.9	.00/.00	2662.89	2662.89	.0006002	.3196		LO
HJOV	NEIVA 4	CO	N 2-52-00	W 075-20-00	291.25	9131.5	.00/.00	1198.49	1198.49	.0013168	.3156		O 5
TIQ	LIMON	CS	N 10-00-00	W 083-02-00	289.48	8057.2	.00/.00	978.60	978.60	.0015877	.3107		O
HCLR1	QUITO	EC	S 0-11-00	W 078-28-00	291.80	8931.7	.00/.00	978.60	978.60	.0014880	.2912		O 5
HJJT	VDEL RIO BLA	CO	N 4-26-04	W 075-14-06	291.05	9078.7	.00/.00	978.60	978.60	.0012910	.2527		O 5

SUMMARY OF LIMITS TO KENT			1170 kHz		HONOLULU,HI US		4.4900 kW		296.80 mV/m @ km		Dom Cl: B	Dom Stat: C	
N 21-26-18		W 157-59-29			E(Nom): .0000		Hours: N		Mode: ND3		Reg2 Cl: B	Not stat: P	
Call	City	St Co	Latitude (D-M-S)	Longitude (D-M-S)	Az (Deg)	Dist (km)	Min/Max (Deg)(Deg)	E(Hor) (mV/m)	E(Vert) (mV/m)	E(Sky) (mV/m)	Limit (mV/m)	RSS (mV/m)	Code 123456
KENT	HONOLULU	HI US	N 21-17-08	W 157-48-08	310.97	25.9	79.73/83.75	630.57	86.67	.5160155	8.9443		LO
KFAQ	TULSA	OK US	N 36-08-49	W 095-48-27	272.71	6171.9	.00/.00	4273.84	4273.84	.0017196	1.4699	1.470	LO
KLOK	SAN JOSE	CA US	N 37-18-41	W 121-48-58	253.31	3891.9	.00/.00	1149.61	1149.61	.0056357	1.2958	1.960	LO
-----50% Exclusion-----													
KJNP	NORTH POLE	AK US	N 64-45-34	W 147-19-26	194.39	4880.5	.00/.00	1747.84	1747.84	.0022207	.7763	2.108	LO
KPUG	BELLINGHAM	WA US	N 48-46-34	W 122-26-21	238.73	4368.7	.00/.00	1028.82	1028.82	.0035149	.7232	2.228	LO
-----25% Exclusion-----													
KCBQ	SAN DIEGO	CA US	N 32-54-29	W 116-54-34	263.07	4229.5	.00/.00	524.15	524.15	.0050197	.5262		CP
NEW	BEND	OR US	N 44-04-47	W 121-16-59	245.25	4201.4	.00/.00	607.89	607.89	.0042160	.5126		CP
KCBQ	SAN DIEGO	CA US	N 32-50-23	W 116-59-31	263.10	4221.0	.00/.00	387.37	387.37	.0050483	.3911		LO
HCJM4	ESMERALDAS	EC	N 0-56-05	W 079-41-17	291.68	8759.5	.00/.00	978.69	978.69	.0015333	.3001		O
TGRL	LANDIVAR	GT	N 14-49-00	W 091-30-00	286.84	7016.6	.00/.00	692.00	692.00	.0020743	.2871		O 5
YSVE	SAN SALVADOR	ES	N 13-43-00	W 089-04-00	287.61	7303.3	.00/.00	692.00	692.00	.0019098	.2643		O 5
ZYJ-273	CURITIBA	BR	S 25-27-00	W 049-16-00	282.88	12817.4	.00/.00	1537.93	1537.93	.0008569	.2636		O
HJDT	MEDELLIN 9	CO	N 6-18-00	W 075-35-00	290.76	8968.7	.00/.00	978.60	978.60	.0012780	.2501		O
HJNW	CARTAGENA 5	CO	N 10-27-00	W 075-32-00	290.08	8812.8	.00/.00	978.60	978.60	.0012056	.2360		O 5
HJGA	TUNJA 1	CO	N 5-34-00	W 073-21-00	290.98	9228.5	.00/.00	978.60	978.60	.0011966	.2342		O
XEUVA	AGUASCALIENTES	AG MX	N 21-53-04	W 102-19-56	280.57	5718.7	.00/.00	362.66	362.66	.0030187	.2190		O 4
CMNW	PILON 1	CU	N 19-53-00	W 077-20-00	287.65	8289.6	.00/.00	978.60	978.60	.0010904	.2134		O 7
HJLB	ARAUCA	CO	N 7-01-00	W 070-45-00	291.02	9439.1	.00/.00	978.60	978.60	.0010728	.2100		O
YVNW	RADIO DARIO	NU	N 12-25-00	W 086-52-00	288.35	7574.5	.00/.00	536.00	536.00	.0017812	.1909		O

SUMMARY OF LIMITS TO KENT 1170 kHz HONOLULU, HI US 5.0000 kW 282.00 mV/m @ km Dom Cl: B Dom Stat: L
N 21-17-08 W 157-48-08 E(Nom): .0000 Hours: U Mode: ND1 Reg2 Cl: B Not stat: O

Call	City	St Co	Latitude (D-M-S)	Longitude (D-M-S)	Az (Deg)	Dist (km)	Min/Max (Deg) (Deg)	E(Hor) (mV/m)	E(Vert) (mV/m)	E(Sky) (mV/m)	Limit (mV/m)	RSS (mV/m)	Code 123456
KENT	HONOLULU	HI US	N 21-26-18	W 157-59-29	130.90	25.9	79.73/83.75	628.91	95.58	.5160155	9.8639		CP
25% Exclusion													
KFAQ	TULSA	OK US	N 36-08-49	W 095-48-27	272.44	6163.4	.00/ .00	4275.53	4275.53	.0017346	1.4833	1.483	LO
KLOK	SAN JOSE	CA US	N 37-18-41	W 121-48-58	252.91	3885.7	.00/ .00	1149.48	1149.48	.0056683	1.3031	1.974	LO
50% Exclusion													
+ KENTPRO	HONOLULU	HI US	N 21-26-18	W 157-59-29	130.90	25.9	79.73/83.75	630.39	95.49	.5160155	.9855		
KJNP	NORTH POLE	AK US	N 64-45-34	W 147-19-26	194.11	4895.1	.00/ .00	1747.84	1747.84	.0022113	.7730	2.120	LO
KPUG	BELLINGHAM	WA US	N 48-46-34	W 122-26-21	238.36	4370.4	.00/ .00	1025.49	1025.49	.0035251	.7230	2.240	LO
50% Exclusion													
KCBQ	SAN DIEGO	CA US	N 32-54-29	W 116-54-34	262.72	4219.6	.00/ .00	525.25	525.25	.0050565	.5312		CP
NEW	BEND	OR US	N 44-04-47	W 121-16-59	244.87	4199.8	.00/ .00	608.99	608.99	.0042333	.5156		CP
KCBQ	SAN DIEGO	CA US	N 32-50-23	W 116-59-31	262.75	4211.0	.00/ .00	387.95	387.95	.0050853	.3946		LO
HCJM4	ESMERALDAS	EC	N 0-56-05	W 079-41-17	291.54	8738.9	.00/ .00	978.69	978.69	.0015456	.3025		O
TGRL	LANDIVAR	GT	N 14-49-00	W 091-30-00	286.65	6999.0	.00/ .00	692.00	692.00	.0020925	.2896		O 5
YSVE	SAN SALVADOR	ES	N 13-43-00	W 089-04-00	287.42	7285.5	.00/ .00	692.00	692.00	.0019265	.2666		O 5
ZYJ-273	CURITIBA	BR	S 25-27-00	W 049-16-00	282.79	12793.3	.00/ .00	1537.17	1537.17	.0008614	.2648		O
HJDT	MEDELLIN 9	CO	N 6-18-00	W 075-35-00	290.60	8950.0	.00/ .00	978.60	978.60	.0012891	.2523		O
HJNW	CARTAGENA 5	CO	N 10-27-00	W 075-32-00	289.90	8795.4	.00/ .00	978.60	978.60	.0012167	.2381		O 5
HJGA	TUNJA 1	CO	N 5-34-00	W 073-21-00	290.81	9209.9	.00/ .00	978.60	978.60	.0012071	.2363		O
XEUVA	AGUASCALIENTES	AG MX	N 21-53-04	W 102-19-56	280.34	5702.9	.00/ .00	362.66	362.66	.0030451	.2209		O 4

SUMMARY OF LIMITS TO NEW 1180 kHz JACKSONVILLE, OR US 5.0000 kW 722.00 mV/m @ km Dom Cl: B Dom Stat: A
N 42-17-44 W 122-48-15 E(Nom): .0000 Hours: N Mode: DA2 Reg2 Cl: B Not stat: P

Call	City	St Co	Latitude (D-M-S)	Longitude (D-M-S)	Az (Deg)	Dist (km)	Min/Max (Deg) (Deg)	E(Hor) (mV/m)	E(Vert) (mV/m)	E(Sky) (mV/m)	Limit (mV/m)	RSS (mV/m)	Code 123456
NEW	TRUCKEE	CA US	N 39-19-51	W 120-10-36	327.00	396.9	19.03/30.15	392.67	354.78	.1576424	11.1858		AP 2
KOFI	KALISPELL	MT US	N 48-11-52	W 114-15-03	228.69	936.5	6.63/12.20	1328.64	1305.29	.0407946	10.6497	10.650	LO
+ KEX	PORTLAND	OR US	N 45-25-20	W 122-33-57	183.23	348.2	21.67/33.67	2752.47	1894.40	.1780033	6.7442	12.606	LO
+ KEX	PORTLAND	OR US	N 45-25-20	W 122-33-57	183.23	348.2	21.67/33.67	2752.47	1894.40	.1780033	6.7442		AP 2
50% Exclusion													
KLAY	LAKEWOOD	WA US	N 47-09-00	W 122-24-38	183.44	540.7	13.69/22.62	229.20	222.18	.1005587	4.4683	13.374	LO
KERI	WASCO-GREENACRE	CA US	N 35-34-17	W 119-19-26	339.15	805.8	8.31/14.70	283.88	288.00	.0619291	3.5671	13.842	LO
25% Exclusion													
- NEW	BEND	OR US	N 44-04-47	W 121-16-59	212.39	233.6	31.11/45.12	513.62	281.11	.2632936	1.4803		CP
WHAM	ROCHESTER	NY US	N 43-04-55	W 077-43-30	284.43	3640.4	.00/ .00	2662.89	2662.89	.0017249	.9186		LO
KYET	WILLIAMS	AZ US	N 35-15-38	W 112-10-55	313.59	1206.5	4.08/ 8.48	143.23	142.72	.0321524	.9178		LO
NEW	LINCOLN	NE US	N 40-48-42	W 096-31-34	283.04	2184.1	.00/ 1.31	477.33	477.33	.0085907	.8201		P
870107A	ROSWELL	NM US	N 33-27-06	W 104-25-55	306.82	1882.7	.13/ 2.98	270.67	270.67	.0144819	.7840		AP 2
KYDZ	BELLEVUE	NE US	N 41-16-12	W 095-47-10	281.95	2233.7	.00/ 1.06	478.75	478.75	.0080137	.7673		LO
XEFR1	MAGDALENA MIXHU	DF MX	N 19-24-04	W 099-04-56	324.01	3383.3	.00/ .00	665.97	665.97	.0056332	.7503		P 4
CB 118	SANTIAGO 6	CI	S 33-21-00	W 070-40-00	324.27	9948.5	.00/ .00	2675.13	2675.13	.0013426	.7183		O
TGT	SONORA	GT	N 14-32-00	W 090-37-00	321.44	4359.9	.00/ .00	978.60	978.60	.0035687	.6985		O 5
KGOL	HUMBLE	TX US	N 30-08-21	W 095-17-24	306.47	2796.1	.00/ .00	493.83	493.83	.0067069	.6624		AP 2
- KLOK	SAN JOSE	CA US	N 37-18-41	W 121-48-58	351.65	560.6	13.13/21.82	320.92	313.67	.1031287	.6470		LO
- KFAQ	TULSA	OK US	N 36-08-49	W 095-48-27	294.73	2412.4	.00/ .21	3953.50	3953.50	.0079147	.6258		LO
KENTPRO	HONOLULU	HI US	N 21-26-18	W 157-59-29	46.43	4006.9	.00/ .00	630.39	630.39	.0048723	.6143		
TIQ	LIMON	CS	N 10-00-00	W 083-02-00	320.00	5271.8	.00/ .00	978.60	978.60	.0025330	.4957		O
HJGK	BUCARAMANGA	CO	N 7-05-00	W 073-07-00	317.19	6237.0	.00/ .00	1383.99	1383.99	.0017434	.4826		O

SUMMARY OF LIMITS TO NEW 1180 kHz TRUCKEE,CA US .8000 kW 284.30 mV/m @ km Dom Cl: B Dom Stat: A
N 39-19-51 W 120-10-36 E(Nom): .0000 Hours: N Mode: DAN Reg2 Cl: B Not stat: P

Call	City	St Co	Latitude (D-M-S)	Longitude (D-M-S)	Az (Deg)	Dist (km)	Min/Max (Deg)(Deg)	E(Hor) (mV/m)	E(Vert) (mV/m)	E(Sky) (mV/m)	Limit (mV/m)	RSS (mV/m)	Code 123456
KOFI	KALISPELL	MT US	N 48-11-52 W	114-15-03	207.86	1094.0	5.03/ 9.85	1660.36	1640.13	.0327423	10.7404	10.740	LO
NEW	MEDFORD	OR US	N 42-18-00 W	122-49-00	145.19	397.9	18.99/30.08	362.29	332.48	.1571825	10.4520		P
50% Exclusion													
KERI	WASCO-GREENACRE	CA US	N 35-34-17 W	119-19-26	350.05	424.7	17.76/28.40	123.31	149.56	.1478628	4.4229	11.615	LO
25% Exclusion													
NEW	JACKSONVILLE	OR US	N 42-17-44 W	122-48-15	145.28	396.9	19.03/30.15	77.11	65.91	.1576421	2.0779		AP 2
NEW	JACKSONVILLE	OR US	N 42-17-44 W	122-48-15	145.28	396.9	19.03/30.15	77.11	65.91	.1576421	2.0779		AP 2
KYET	WILLIAMS	AZ US	N 35-15-38 W	112-10-55	305.00	839.1	7.84/14.00	143.23	141.36	.0588387	1.6635		LO
+ KEX	PORTLAND	OR US	N 45-25-20 W	122-33-57	163.03	705.1	9.95/17.13	1077.28	1018.56	.0714510	1.4555		AP 2
+ KEX	PORTLAND	OR US	N 45-25-20 W	122-33-57	163.03	705.1	9.95/17.13	1077.28	1018.56	.0714510	1.4555		LO
KLAY	LAKEWOOD	WA US	N 47-09-00 W	122-24-38	167.47	888.0	7.20/13.06	140.37	140.15	.0486952	1.3649		LO
WHAM	ROCHESTER	NY US	N 43-04-55 W	077-43-30	277.97	3537.7	.00/ .00	2662.89	2662.89	.0022703	1.2091		LO
NEW	LINCOLN	NE US	N 40-48-42 W	096-31-34	273.07	2013.1	.00/ 2.23	542.54	542.54	.0110897	1.2033		P
KGOL	HUMBLE	TX US	N 30-08-21 W	095-17-24	301.03	2482.4	.00/ .00	645.98	645.98	.0090754	1.1725		AP 2
KYDZ	BELLEVUE	NE US	N 41-16-12 W	095-47-10	272.10	2072.8	.00/ 1.90	556.59	556.59	.0102703	1.1433		LO
870107A	ROSWELL	NM US	N 33-27-06 W	104-25-55	299.43	1550.7	1.81/ 5.26	261.19	261.06	.0215444	1.1249		AP 2
XEFR1	MAGDALENA MIXHU	DF MX	N 19-24-04 W	099-04-56	322.14	2999.2	.00/ .00	665.97	665.97	.0076609	1.0204		P 4
TGT	SONORA	GT	N 14-32-00 W	090-37-00	319.37	3988.7	.00/ .00	978.60	978.60	.0046401	.9082		O 5
- KFAQ	TULSA	OK US	N 36-08-49 W	095-48-27	286.77	2165.1	.00/ 1.41	4118.47	4118.47	.0106299	.8756		LO
KYET	WILLIAMS	AZ US	N 35-15-38 W	112-10-55	305.00	839.1	7.84/14.00	71.61	70.68	.0588387	.8317		AP 2
CB 118	SANTIAGO 6	CI	S 33-21-00 W	070-40-00	323.86	9554.1	.00/ .00	2675.13	2675.13	.0015080	.8068		O
TIQ	LIMON	CS	N 10-00-00 W	083-02-00	317.91	4911.6	.00/ .00	978.60	978.60	.0032060	.6275		O
KENTPRO	HONOLULU	HI US	N 21-26-18 W	157-59-29	52.29	4095.1	.00/ .00	630.39	630.39	.0048585	.6126		

SUMMARY OF LIMITS TO KLAY 1180 kHz LAKEWOOD,WA US 1.0000 kW 310.53 mV/m @ km Dom Cl: B Dom Stat: L
N 47-09-00 W 122-24-38 E(Nom): .0000 Hours: N Mode: DAN Reg2 Cl: B Not stat: O

Call	City	St Co	Latitude (D-M-S)	Longitude (D-M-S)	Az (Deg)	Dist (km)	Min/Max (Deg)(Deg)	E(Hor) (mV/m)	E(Vert) (mV/m)	E(Sky) (mV/m)	Limit (mV/m)	RSS (mV/m)	Code 123456
KOFI	KALISPELL	MT US	N 48-11-52 W	114-15-03	262.24	621.6	11.63/19.62	910.57	880.40	.0725949	12.7826	12.783	LO
50% Exclusion													
+ KEX	PORTLAND	OR US	N 45-25-20 W	122-33-57	3.50	192.5	36.35/50.71	2216.13	744.43	.2960092	4.4072		AP 2
+ KEX	PORTLAND	OR US	N 45-25-20 W	122-33-57	3.50	192.5	36.35/50.71	2216.13	744.43	.2960092	4.4072	13.521	LO
NEW	MEDFORD	OR US	N 42-18-00 W	122-49-00	3.26	540.2	13.70/22.64	192.84	187.13	.1006639	3.7675		P
25% Exclusion													
NEW	TRUCKEE	CA US	N 39-19-51 W	120-10-36	349.00	888.0	7.20/13.06	284.47	280.62	.0486971	2.7331		AP 2
NEW	JACKSONVILLE	OR US	N 42-17-44 W	122-48-15	3.16	540.7	13.69/22.62	103.36	96.63	.1005522	1.9432		AP 2
NEW	JACKSONVILLE	OR US	N 42-17-44 W	122-48-15	3.16	540.7	13.69/22.62	103.36	96.63	.1005522	1.9432		AP 2
- KPUG	BELLINGHAM	WA US	N 48-46-34 W	122-26-21	179.31	180.8	38.11/52.47	303.24	252.95	.3012204	1.5239		LO
WHAM	ROCHESTER	NY US	N 43-04-55 W	077-43-30	293.22	3487.0	.00/ .00	2662.89	2662.89	.0013415	.7144		LO
KERI	WASCO-GREENACRE	CA US	N 35-34-17 W	119-19-26	349.69	1312.7	3.30/ 7.35	125.52	127.06	.0263961	.6708		LO
CB 118	SANTIAGO 6	CI	S 33-21-00 W	070-40-00	327.67	10334.5	.00/ .00	2675.13	2675.13	.0011642	.6229		O
870107A	ROSWELL	NM US	N 33-27-06 W	104-25-55	320.55	2145.1	.00/ 1.51	282.55	282.55	.0100741	.5693		AP 2
XEFR1	MAGDALENA MIXHU	DF MX	N 19-24-04 W	099-04-56	330.91	3740.3	.00/ .00	665.97	665.97	.0041740	.5560		P 4
KYET	WILLIAMS	AZ US	N 35-15-38 W	112-10-55	330.36	1571.8	1.69/ 5.10	143.23	143.14	.0185738	.5317		LO
TGT	SONORA	GT	N 14-32-00 W	090-37-00	327.60	4666.7	.00/ .00	978.60	978.60	.0027090	.5302		O 5
NEW	LINCOLN	NE US	N 40-48-42 W	096-31-34	297.57	2175.8	.00/ 1.36	343.80	343.80	.0072086	.4957		P
KENTPRO	HONOLULU	HI US	N 21-26-18 W	157-59-29	39.49	4279.0	.00/ .00	630.39	630.39	.0038182	.4814		
KYDZ	BELLEVUE	NE US	N 41-16-12 W	095-47-10	296.21	2208.1	.00/ 1.19	338.16	338.16	.0067827	.4587		LO

FIGURE 7

