



(REFERENCE COPY - Not for submission)

Displacement for LPTV Translator Application

File Number: 0000054835 | Submit Date: 06/01/2018 | Call Sign: K41JT-D | Facility ID: 26419 | FRN: 0003720687 | State: Hawaii | City: KILAUEA MILITARY CAMP

Service: LPT | Purpose: Displacement BLDTT-20100922AEU | Status: Pending | Status Date: 06/01/2018 | Filing Status: Active

General Information

Section	Question	Response
Attachments	Are attachments (other than associated schedules) being filed with this application?	Yes

Fees, Waivers, and Exemptions

Section	Question	Response
Waivers	Does this filing request a waiver of the Commission's rule(s)?	No
	Total number of rule sections involved in this waiver request:	

Applicant
Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
HAWAII PUBLIC TELEVISION FOUNDATION Doing Business As: HAWAII PUBLIC TELEVISION FOUNDATION	P.O. BOX 29805 HONOLULU, HI 96820 United States	+1 (808) 462-5000	KYAMAMOTO@PBSHAWAII. ORG	Not-for- Profit

Authorization Holder Name

Check box if the Authorization Holder name is being updated because of the sale (or transfer of control) of the Authorization(s) to another party and for which proper Commission approval has not been received or proper notification provided.

Contact
Representatives
(2)

Contact Name	Address	Phone	Email	Contact Type
MARGARET L. MILLER GRAY MILLER PERSH LLP	1200 NEW HAMPSHIRE AVE NW SUITE 410 WASHINGTON, DC 20036 United States	+1 (202) 776-2914	MMILLER@GRAYMILLERPERSH.COM	Legal Representative
JOHN NAKAHIRA CHIEF ENGINEER PBS Hawaii	John Nakahira 315 Sand Island Access Road Honolulu, HI 96819 United States	+1 (808) 462-5055	jnakahira@pbshawaii.org	Technical Representative

Alien Ownership

Question		Response
1) Is the applicant a foreign government or the representative of any foreign government as specified in Section 310(a) of the Communications Act?		No
2) Is the applicant an alien or the representative of an alien? (Section 310(b)(1))		No
3) Is the applicant a corporation, or non-corporate entity, that is organized under the laws of any foreign government? (Section 310(b)(2))		No
4) Is the applicant an entity of which more than one-fifth of the capital stock, or other equity or voting interest, is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any entity organized under the laws of a foreign country? (Section 310(b)(3))		No
5) Is the applicant directly or indirectly controlled by any other entity of which more than one-fourth of the capital stock, or other equity or voting interest, is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any entity organized under the laws of a foreign country? (Section 310(b)(4))		No
6) Has the applicant received a declaratory ruling(s) under Section 310(b)(4) of the Communications Act?		
6a) Enter the citation of the applicable declaratory ruling by DA/FCC number, FCC Record citation, release date, or any other identifying information.		
7) Has there been any change in the applicant's foreign ownership since issuance of the declaratory ruling(s) cited in response to Question 6?		
7a) Enter the File or Docket Number of the Petition for Declaratory Ruling that the applicant has filed for its foreign ownership in connection with this application pursuant to Section 310(b)(4) of the Communications Act. It is not necessary to file a request for a foreign ownership declaratory ruling if the applicant attaches a showing that the requested authorization(s) is exempt from the provisions of Section 310(b)(4).		
8) Does the applicant certify that it is in compliance with the terms and conditions of the foreign ownership declaratory ruling(s) cited in response to Question 6?		
9) In connection with this application, is the applicant filing a foreign ownership Petition for Declaratory Ruling pursuant to Section 310(b)(4) of the Communications Act?		

Basic Qualifying Questions

Section	Question	Response
Revoked Application	Has the Applicant or any party to this application had any FCC station Authorization revoked or had any application for an initial, modification or renewal of FCC station Authorization denied by the Commission?	No
State or Federal Convictions	Has the Applicant or any party to this application, or any party directly or indirectly controlling the Applicant, ever been convicted of a felony by any state or federal court?	No

Channel and Facility Information

Section	Question	Response
Proposed Community of License	Facility ID	26419
	State	Hawaii
	City	KILAUEA MILITARY CAMP
	LPT Channel	17

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	No
	ASR Number	
Coordinates (NAD83)	Latitude	19° 31' 12.2" N+
	Longitude	155° 17' 56.2" W-
	Structure Type	GTOWER-Guyed Structure Used for Communication Purposes
	Overall Structure Height	54.9 meters
	Support Structure Height	54.9 meters
	Ground Elevation (AMSL)	1679 meters
Antenna Data	Height of Radiation Center Above Ground Level	38.1 meters
	Height of Radiation Center Above Mean Sea Level	1717.1 meters
	Effective Radiated Power	3.16 kW

Antenna
Technical Data

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	Yes
	Antenna ID	101359
Antenna Manufacturer and Model	Manufacturer:	SCA
	Model	PRTV
	Rotation	210 degrees
	Electrical Beam Tilt	0
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Horizontal
Elevation Radiation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	
	Out-of-Channel Emission Mask:	Simple

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	V _A (Authorized Value)	Degree	V _A (Authorized Value)	Degree	V _A (Authorized Value)	Degree	V _A (Authorized Value)
0	1	90	0.047	180	0.025	270	0.047
10	0.808	100	0.045	190	0.026	280	0.049
20	0.43	110	0.046	200	0.028	290	0.049
30	0.165	120	0.046	210	0.03	300	0.052
40	0.09	130	0.04	220	0.038	310	0.059
50	0.059	140	0.038	230	0.04	320	0.09
60	0.052	150	0.03	240	0.046	330	0.165
70	0.049	160	0.028	250	0.046	340	0.43
80	0.049	170	0.026	260	0.045	350	0.808

Additional Azimuths

Degree	V _A
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**Parties to the
Application (0)**

Information not provided.

Attributable Interest

Section	Question	Response
Equity and Financial Interests	Applicant certifies that equity and financial interests not set forth by the applicant parties are non-attributable.	
Other Authorizations	Does the applicant or any party to the application have an attributable interest in any other broadcast station(s).	

Construction
Permit
Certifications

Section	Question	Response
Post-Incentive Auction Expedited Processing	It will operate on the DTV channel for this station as established in the post-incentive auction channel reassignment public notice.	
	It will operate post-incentive auction facilities that do not expand the noise-limited service contour in any direction beyond that established by the post-incentive auction channel reassignment public notice.	
	It will operate post-incentive auction facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the post-incentive auction channel reassignment public notice.	
	The antenna structure to be used by this facility has been registered by the Commission and will not require re-registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely affect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7.	
Environmental Effect	Would a Commission grant of Authorization for this location be an action which may have a significant environmental effect? (See Section 1.1306 of 47 C.F.R.)	No
Broadcast Facility	The proposed facility complies with all of the following applicable rule sections. 47 C.F.R. Sections 74.709, 74.793 (e), 74.793(f), 74.793(g), 74.793(h)	Yes

Legal
Certifications

Section	Question	Response
Character Issues	Applicant certifies that neither applicant nor any party to the application has or had any interest in, or connection with: (a) any broadcast application in any proceeding where character issues were left in unresolved or were resolved adversely against the applicant or party to the application; or (b) any pending broadcast application in which character issues have been raised.	
Adverse Findings	Has the Applicant or any party to this application had an adverse finding or an adverse final action taken by any court or administrative body in a civil or criminal proceeding brought under any law related to the following: any felony; mass media-related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination?	
Program Service Certification	Applicant certifies that it is cognizant of and will comply with its obligations as a Commission licensee to present a program service responsive to the issues of public concern facing the station's community of license and service area.	
Local Public Notice	Applicant certifies that it has or will comply with the public notice requirements of 47 C.F.R. Section 73.3580.	Yes
Equal Employment Opportunity (EEO)	If the applicant proposes to employ five or more full-time employees, applicant certifies that it is filing simultaneously with this application a Model EEO Program Report.	
Auction Authorization	If the application is being submitted to obtain a construction permit for which the applicant was the winning bidder in an auction, then the applicant certifies, pursuant to 47 C.F.R. Section 73.5005(a), that it has attached an exhibit containing the information required by 47 C.F.R. Sections 1.2107(d), 1.2110(i), 1.2112(a) and 1.2112(b), if applicable.	N/A
Rebroadcast Certification	(For Applicants proposing rebroadcasts that are not the licensee of the primary station) Applicant certifies that written authority has been obtained from the licensee of the station whose programs are to be retransmitted.	N/A

Certification

Section	Question	Response
General Certification Statements	The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by authorization or otherwise, and requests an Authorization in accordance with this application (See Section 304 of the Communications Act of 1934, as amended.).	
	The Applicant certifies that neither the Applicant nor any other party to the application is subject to a denial of Federal benefits pursuant to §5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. §862, because of a conviction for possession or distribution of a controlled substance. This certification does not apply to applications filed in services exempted under §1.2002(c) of the rules, 47 CFR . See §1.2002(b) of the rules, 47 CFR §1.2002(b), for the definition of "party to the application" as used in this certification §1.2002 (c). The Applicant certifies that all statements made in this application and in the exhibits, attachments, or documents incorporated by reference are material, are part of this application, and are true, complete, correct, and made in good faith.	
Authorized Party to Sign	FAILURE TO SIGN THIS APPLICATION MAY RESULT IN DISMISSAL OF THE APPLICATION AND FORFEITURE OF ANY FEES PAID Upon grant of this application, the Authorization Holder may be subject to certain construction or coverage requirements. Failure to meet the construction or coverage requirements will result in automatic cancellation of the Authorization. Consult appropriate FCC regulations to determine the construction or coverage requirements that apply to the type of Authorization requested in this application. WILLFUL FALSE STATEMENTS MADE ON THIS FORM OR ANY ATTACHMENTS ARE PUNISHABLE BY FINE AND /OR IMPRISONMENT (U.S. Code, Title 18, §1001) AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, §312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, §503).	
	I certify that this application includes all required and relevant attachments.	Yes
	I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.	Leslie Wilcox <i>President and CEO</i> 06/01/2018

Attachments

File Name	Uploaded By	Attachment Type	Description
<u>K41JT-LD Ch 17 Post Trans Engineering Statement.pdf</u>	Applicant	Construction Permit Certifications	Comprehensive Engineering Statement

ENGINEERING EXHIBIT

Modification of a Licensed Facility for LPTV Station Application

prepared for

Hawaii Public Television Foundation
K41JT-D Kilauea Military Camp, Hawaii
Facility ID 26419
Ch. 17 (Digital) 3.16 kW

Table of Contents

FCC Form 2100, Schedule C – Engineering Data (Digital)

Statement A Comprehensive Engineering Statement

Attachment TV_Study Interference Report

This material supplies a “hard copy” of the engineering portions of this application as entered May 30, 2018 for filing electronically. Since the FCC’s electronic filing system may be accessed by anyone with the applicant’s name and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.

Schedule C - Statement A
COMPREHENSIVE ENGINEERING STATEMENT
prepared for
Hawaii Public Television Foundation
K41JT-D Kilauea Military Camp, Hawaii
Facility ID 26419
Ch. 17 (Digital) 3.16 kW

Hawaii Public Television Foundation (“*Hawaii PTV*”) is the licensee of digital low power television translator station K41JT-D, Channel 41, Kilauea Military Camp, Hawaii, Facility ID 26419 (File No. BLDTT-20100922AEU). K41JT is displaced as a result of the TV Band Repack¹. Under the provisions of the FCC’s Special Displacement Filing Window for low power television stations and television translators, *Hawaii PTV* requests a displacement channel change to Channel 17.

Nature of the Proposal

The antenna system for the proposed K41JT operation is a directional antenna which will be side-mounted 38.1 m above ground on the existing tower. The tower is less than 200’ in overall height and does not require registration. No change in structure overall height is necessary to carry out this proposal. Since no change to the structure’s overall height is proposed, no change to structure marking/lighting requirements will result.

The proposed digital facility will operate on Channel 17 using a “simple” out of channel emission mask, a maximum effective radiated power of 3.16 kW, and an antenna height of 1717.1 meters AMSL. **Schedule C - Figure 1** depicts the licensed 51 dBμ F(50,90) and the proposed 51 dBμ F(50,90) coverage contours which are completely coincident. As demonstrated therein, the service area overlap complies with §74.787(b)(1)(ii). The proposed site is located at the same site as the licensed coordinates, thus complying with §74.787(b)(1)(iii) for a minor change application. The transmitter site location is some 10 km (6.1 miles) from the Kilauea Military Camp, thus complying with §74.787(a)(4) of the Rules for a displaced translator.

Allocation Considerations

The instant proposal complies with the Commission’s interference protection requirements toward all DTV, television translator, LPTV, and Class A stations. A detailed interference study was conducted using the FCC’s TV Study program version 2.2.5. The interference study results are provided as a separate attachment to this application and show that

¹ Specifically, Channel 51 K41JT is displaced as an “out-of-core” facility post-Repack.

Schedule C - Statement A
COMPREHENSIVE ENGINEERING STATEMENT
(Page 2 of 4)

no interference is caused to any full service, Class A station or secondary stations². Accordingly, the instant proposal complies with §74.793 regarding interference protection to analog and digital television, low power television, television translator, and Class A television facilities for *both pre and post* transition.

International Coordination

The proposed transmitter site is located in Hawaii which is greater than the 100 km coordination distance from the US-Canadian and US-Mexican Borders. Thus, it is believed that international coordination will not be necessary for the instant proposal.

Other Allocation Considerations

The nearest FCC monitoring station is at Waipahu, Hawaii, at a distance of 348.4 km from the proposed site. This exceeds by a great margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The proposed site is also located outside the areas specified in §73.1030(a)(1) and §73.1030(b). Thus, notification of the instant proposal to the National Radio Astronomy Observatory at Green Bank, West Virginia, or the Table Mountain Radio Receiving Zone in Boulder County, Colorado is not required. There are no AM broadcast stations located within 3.2 km (2 miles) of the proposed site, according to information extracted from the Commission's engineering database.

Environmental Considerations

The instant proposal is not believed to have a significant environmental impact as defined under §1.1306 of the Commission's Rules. Consequently, preparation of an Environmental Assessment is not required.

The use of existing antenna support structures has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No change in structure height is proposed, thus no change in current structure marking and lighting requirements is anticipated. Therefore, it is believed that this application may be

² The instant application was studied with 1 km cell size, and 0.1 km terrain increment settings.

Schedule C - Statement A
COMPREHENSIVE ENGINEERING STATEMENT
(Page 3 of 4)

categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to radiofrequency electromagnetic field using the procedures outlined in the Commission's OET Bulletin 65 ("OET 65"). OET 65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines adopted in §1.1310. Under present Commission policy, a facility may be presumed to comply with the limits specified in §1.1310 if it satisfies the exposure criteria set forth in OET 65. Based upon that methodology, and as demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

The K41JT Channel 17 antenna center of radiation will be 38.1 meters above ground level. An effective radiated power of 3.16 kilowatts, horizontally polarized, will be employed utilizing a directional antenna, Scala Model PR-TV oriented at 210 degrees True. According to information provided by the antenna manufacturer, a "worst-case" relative field value of 10 percent (from 15° to 90° below the horizontal) is assumed for purposes of the calculation. The "uncontrolled/general population" limit specified in §1.1310 for Channel 17 (center frequency 491 MHz) is 327.3 $\mu\text{W}/\text{cm}^2$.

OET 65's formula for television transmitting antennas is based on the NTSC transmission standards, where the average power is normally much less than the peak power. For the DTV facility in the instant proposal, the peak-to-average ratio is different than the NTSC ratio. The DTV ERP figure herein refers to the average power level. The formula used for calculating DTV signal density in this analysis is essentially the same as equation (10) in OET 65.

$$S = (33.4098) (F^2) (ERP) / D^2$$

Where:

- S = power density in microwatts/cm²
- ERP = total (average) ERP in Watts
- F = relative field factor
- D = distance in meters

Using this formula and the above assumptions, the proposed facility would contribute a

Schedule C - Statement A
COMPREHENSIVE ENGINEERING STATEMENT
(Page 4 of 4)

power density of 0.81 $\mu\text{W}/\text{cm}^2$ at two meters above ground level near the antenna support structure, or 0.24 percent of the general population/uncontrolled limit.

§1.1307(b)(3) states that facilities are categorically excluded from responsibility for taking any corrective action in the areas where their contribution is less than five percent of the exposure limit. Since the instant situation meets the five percent exclusion test at all ground level areas, the impact of any other facilities near this site may be considered independently from this proposal. Accordingly, it is believed that the impact of the proposed operation should not be considered to be a factor at or near ground level as defined under §1.1307(b).

Safety of Tower Workers and the General Public

As demonstrated herein, excessive levels of RF energy attributable to the proposal will not be caused at publicly accessible areas at ground level or near the base of the antenna supporting structure. Consequently, members of the general public will not be exposed to RF levels in excess of the Commission's guidelines. Nevertheless, site access will continue to be restricted and controlled through the use of a locked fence. Additionally, appropriate RF exposure warning signs will continue to be posted.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level or at the base of the top mounted tower structure. A site exposure policy will be employed protecting maintenance workers from excessive exposure when work must be performed on the tower or in areas where high RF levels may be present. Such protective measures may include, but will not be limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines would otherwise be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with all pertinent stations.

Conclusion

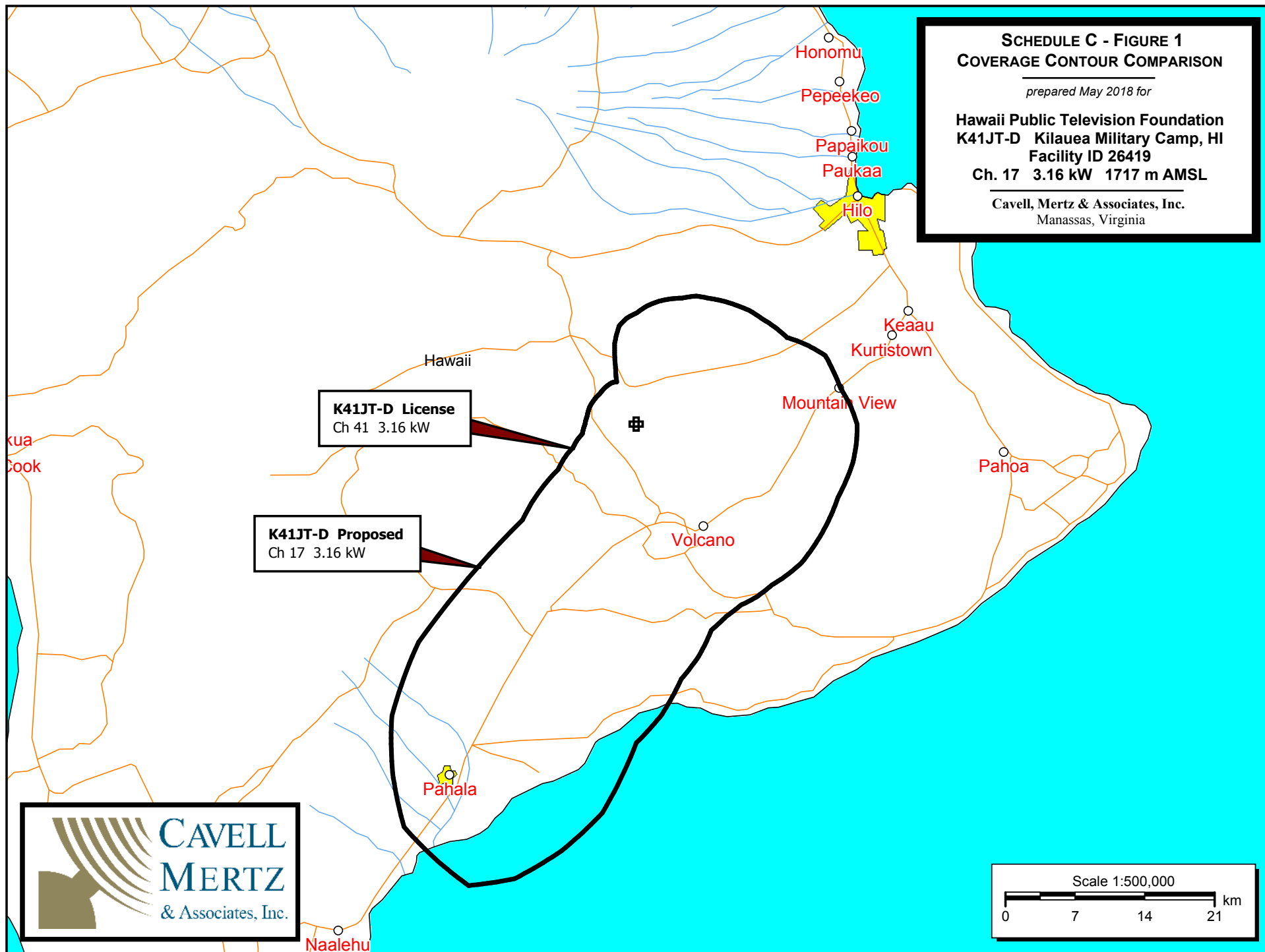
Based on the preceding, it is believed that the instant proposal complies with all Commission Rules and policies.

**SCHEDULE C - FIGURE 1
COVERAGE CONTOUR COMPARISON**

prepared May 2018 for

**Hawaii Public Television Foundation
K41JT-D Kilauea Military Camp, HI
Facility ID 26419
Ch. 17 3.16 kW 1717 m AMSL**

**Cavell, Mertz & Associates, Inc.
Manassas, Virginia**



tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: K41JT on 17 10ppkm_PP, Model: Longley-Rice
Start: 2018.05.29 16:05:02

Study created: 2018.05.29 16:05:02

Study build station data: LMS TV 2018-05-29

Proposal: K41JT-D D17 LD LIC KILAUEA MILITARY CAMP, HI
File number: K41JT on 17 10ppkm
Facility ID: 26419
Station data: User record
Record ID: 371
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel
Protect baseline records from LPTV

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KOGG	D16	DT	LIC	WAILUKU, HI	BLCDT20090123ACH	168.0 km
No	K17GR	N17+	TX	LIC	KULA, HI	BLTTL20070122AJL	168.1

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D17
Mask: Simple
Latitude: 19 31 12.20 N (NAD83)
Longitude: 155 17 56.20 W
Height AMSL: 1717.1 m
HAAT: 0.0 m
Peak ERP: 3.16 kW
Antenna: SCA-PRTV (ID 101359) 210.0 deg
Elev Pattern: Generic

49.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.003 kW	263.5 m	12.6 km
45.0	0.002	648.7	18.3
90.0	0.007	724.6	24.9
135.0	0.008	577.7	23.6
180.0	0.086	480.8	35.1
225.0	1.21	140.7	35.5
270.0	0.009	-583.5	5.8
315.0	0.007	-197.7	5.5

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 257 m

Distance to Canadian border: 4223.6 km

Distance to Mexican border: 4021.5 km

Conditions at FCC monitoring station: Waipahu HI
Bearing: 306.8 degrees Distance: 348.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 52.9 degrees Distance: 5257.3 km

No land mobile station failures found

Proposal is not within the Offshore Radio Service protected area

Study cell size: 1.00 km
Profile point spacing: 0.10 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

Interference to proposal scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K41JT-D	D17	LD	LIC	KILAUEA MILITARY CAMP, HI	K41JT on 17 10ppkm	
	Service area	Terrain-limited		IX-free	Percent IX		
1768.7	12,206	1424.0	11,426	1424.0	11,426	0.00	0.00