Approved by OMB
3060–0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATIONEnter a description of this application to identify it on the main menu:
E030115 PRIOR USE STA (IS19)

1. Applicant

Name:	Hawaii Pacific Teleport, L.P.	**Phone Number:**	808–674–9157
DBA Name:		**Fax Number:**	808–674–1826
Street:	P.O. Box 693	**E–Mail:**	lsmith–ryland@hawaiiteleport.com
City:	Rumson	**State:**	NJ
Country:	USA	**Zipcode:**	07760 –
Attention:	Ms Leeana A Smith–Ryland		

FEDERAL COMMUNICATIONS COMMISSION
GRANTED
International Bureau

File # SES-STA-20170622-00671
E030115
Call Sign _____ Grant Date 6-29-17
(or other identifier)
Term Dates
From: 6-29-17 To: 8-28-17
Approved: David E Hall

Applicant: Hawaii Pacific Teleport, L.P.
Call Sign: E030115
File No.: SES-STA-20170622-00671
Special Temporary Authority (STA)

Hawaii Pacific Teleport, L.P. ("Hawaii Pacific Teleport") is granted a 60-day STA for fixed earth station in Kapolei, Hawaii located at 21° 20' 8.9"N.L./158° 05' 17.8" W.L. to communicate with satellite Intelsat 19 (S2850) at the 166° E.L. orbital location. Operations will be conducted on frequencies: 14.00-14.50 GHz (Earth-to-space) and 12.25-12.70 GHz (space-to-Earth) with emission designators 36M0G7W and 2M00G7W under the following conditions:

1. Operations, shall not cause harmful interference to, and shall not claim protection from, interference caused to it by any other lawfully operating station and it shall cease transmission(s) immediately upon notice of such interference and notify the FCC in writing.

2. Operation shall not exceed the operational parameters proposed in the pending application FCC IBFS File No.: SES-MOD-20170622-00670.

3. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Hawaii Pacific Teleport, L.P.'s risk.

4. Grant of this STA is without prejudice to any determination that the Commission may make regarding pending or future Hawaii Pacific Teleport's applications.

This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately.

File # SES-STA-20170622-00671
Call Sign E030115 Grant Date 6-29-17
(or other identifier)
Term Dates
From: 6-30-17 To: 8-28-17
Approved:

2. Contact

Name:	Frank R. Jazzo, Esq	**Phone Number:**	703-812-0470
Company:	Fletcher, Heald & Hildreth, PLC	**Fax Number:**	703-812-0486
Street:	1300 N 17th Street 11th Floor	E-Mail:	jazzo@fhhlaw.com
City:	Arlington	**State:**	VA
Country:	USA	**Zipcode:**	22209 -
Attention:		**Relationship:**	Legal Counsel

(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)
3. Reference File Number or Submission ID IB2017001631

4a. Is a fee submitted with this application?
(●) If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).
( ) Governmental Entity ( ) Noncommercial educational licensee
( ) Other(please explain):

4b. Fee Classification CGX – Fixed Satellite Transmit/Receive Earth Station

5. Type Request

(●) Use Prior to Grant ( ) Change Station Location ( ) Other

6. Requested Use Prior Date 06/26/2017	
7. CityKAPOLEI	8. Latitude (dd mm ss.s h) 21 20 8.9 N

9. State HI	10. Longitude (dd mm ss.s h) 158 5 17.8 W

11. Please supply any need attachments.

Attachment 1: Sched.B Attachment 2: RadHaz Attachment 3:

12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

This application requests prior use special temporary authority to operate E030115 with Ku-Band frequencies on IS19. Applicant's customer needs to move from its current location at a California teleport to Hawaii because the look angle is too low from California and is causing scintillation issues for service to airplanes, its customers. To eliminate the

13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.

◉ Yes ○ No

14. Name of Person Signing Leeana Smith-Ryland	15. Title of Person Signing Chief Executive Officer

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD–PERM, Paperwork Reduction Project (3060–0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PRA@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060–0678.

THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104–13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

12. Description

This application requests prior use special temporary authority to operate E030115 with Ku-Band frequencies on IS19. Applicant's customer needs to move from its current location at a California teleport to Hawaii because the look angle is too low from California and is causing scintillation issues for service to airplanes, its customers. To eliminate the airplane scintillation issues as quickly as possible, we request expedited processing for this request. An application to modify E030115 is also being filed simultaneously.

Analysis of Non-Ionizing Radiation for a 8.1-Meter Earth Station System

This report analyzes the non-ionizing radiation levels for a 8.1-meter earth station system. The analysis and calculations performed in this report comply with the methods described in the FCC Office of Engineering and Technology Bulletin, No. 65 first published in 1985 and revised in 1997 in Edition 97-01. The radiation safety limits used in the analysis are in conformance with the FCC R&O 96-326. Bulletin No. 65 and the FCC R&O specifies that there are two separate tiers of exposure limits that are dependant on the situation in which the exposure takes place and/or the status of the individuals who are subject to the exposure. The Maximum Permissible Exposure (MPE) limits for persons in a General Population/Uncontrolled environment are shown in Table 1. The General Population/Uncontrolled MPE is a function of transmit frequency and is for an exposure period of thirty minutes or less. The MPE limits for persons in an Occupational/Controlled environment are shown in Table 2. The Occupational MPE is a function of transmit frequency and is for an exposure period of six minutes or less. The purpose of the analysis described in this report is to determine the power flux density levels of the earth station in the far-field, near-field, transition region, between the subreflector or feed and main reflector surface, at the main reflector surface, and between the antenna edge and the ground and to compare these levels to the specified MPEs.

Table 1. Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	0.2
300-1500	Frequency (MHz)*(0.8/1200)
1500-100,000	1.0

Table 2. Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	1.0
300-1500	Frequency (MHz)*(4.0/1200)
1500-100,000	5.0

Table 3. Formulas and Parameters Used for Determining Power Flux Densities

Parameter	Symbol	Formula	Value	Units
Antenna Diameter	D	Input	8.1	m
Antenna Surface Area	$A_{surface}$	$\pi D^2 / 4$	51.53	m^2
Subreflector Diameter	D_{sr}	Input	105.0	cm
Area of Subreflector	A_{sr}	$\pi D_{sr}{}^2/4$	8659.01	cm^2
Frequency	F	Input	14250	MHz
Wavelength	λ	300 / F	0.021053	m
Transmit Power	P	Input	350.00	W
Antenna Gain (dBi)	G_{es}	Input	59.7	dBi
Antenna Gain (factor)	G	$10^{Ges/10}$	933254.3	n/a
Pi	π	Constant	3.1415927	n/a
Antenna Efficiency	η	$G\lambda^2/(\pi^2D^2)$	0.64	n/a

1. Far Field Distance Calculation

The distance to the beginning of the far field can be determined from the following equation:

Distance to the Far Field Region

$$R_{ff} = 0.60\ D^2 / \lambda \quad (1)$$
$$= 1869.9\ \text{m}$$

The maximum main beam power density in the far field can be determined from the following equation:

On-Axis Power Density in the Far Field

$$S_{ff} = G\ P / (4\ \pi\ R_{ff}^2) \quad (2)$$
$$= 7.434\ \text{W/m}^2$$
$$= 0.743\ \text{mW/cm}^2$$

2. Near Field Calculation

Power flux density is considered to be at a maximum value throughout the entire length of the defined Near Field region. The region is contained within a cylindrical volume having the same diameter as the antenna. Past the boundary of the Near Field region, the power density from the antenna decreases linearly with respect to increasing distance.

The distance to the end of the Near Field can be determined from the following equation:

Extent of the Near Field

$$R_{nf} = D^2 / (4\ \lambda) \quad (3)$$
$$= 779.1\ \text{m}$$

The maximum power density in the Near Field can be determined from the following equation:

Near Field Power Density

$$S_{nf} = 16.0\ \eta\ P / (\pi\ D^2) \quad (4)$$
$$= 17.354\ \text{W/m}^2$$
$$= 1.735\ \text{mW/cm}^2$$

3. Transition Region Calculation

The Transition region is located between the Near and Far Field regions. The power density begins to decrease linearly with increasing distance in the Transition region. While the power density decreases inversely with distance in the Transition region, the power density decreases inversely with the square of the distance in the Far Field region. The maximum power density in the Transition region will not exceed that calculated for the Near Field region. The power density calculated in Section 1 is the highest power density the antenna can produce in any of the regions away from the antenna. The power density at a distance R_t can be determined from the following equation:

Transition Region Power Density

$$S_t = S_{nf}\ R_{nf} / R_t \quad (5)$$
$$= 1.735\ \text{mW/cm}^2$$

4. Region between the Main Reflector and the Subreflector

Transmissions from the feed assembly are directed toward the subreflector surface, and are reflected back toward the main reflector. The most common feed assemblies are waveguide flanges, horns or subreflectors. The energy between the subreflector and the reflector surfaces can be calculated by determining the power density at the subreflector surface. This can be determined from the following equation:

Power Density at the Subreflector

$$S_{sr} = 4000\ P / A_{sr} \quad (6)$$
$$= 161.681\ mW/cm^2$$

5. Main Reflector Region

The power density in the main reflector is determined in the same manner as the power density at the subreflector. The area is now the area of the main reflector aperture and can be determined from the following equation:

Power Density at the Main Reflector Surface

$$S_{surface} = 4\ P / A_{surface} \quad (7)$$
$$= 27.169\ W/m^2$$
$$= 2.717\ mW/cm^2$$

6. Region between the Main Reflector and the Ground

Assuming uniform illumination of the reflector surface, the power density between the antenna and the ground can be determined from the following equation:

Power Density between Reflector and Ground

$$S_g = P / A_{surface} \quad (8)$$
$$= 6.792\ W/m^2$$
$$= 0.679\ mW/cm^2$$

7. Summary of Calculations

Table 4. Summary of Expected Radiation levels for Uncontrolled Environment

Region		Calculated Maximum Radiation Power Density Level (mW/cm^2)	Hazard Assessment
1. Far Field (R_{ff} = 1869.9 m)	S_{ff}	0.743	Satisfies FCC MPE
2. Near Field (R_{nf} = 779.1 m)	S_{nf}	1.735	Potential Hazard
3. Transition Region ($R_{nf} < R_t < R_{ff}$)	S_t	1.735	Potential Hazard
4. Between Main Reflector and Subreflector	S_{sr}	161.681	Potential Hazard
5. Main Reflector	$S_{surface}$	2.717	Potential Hazard
6. Between Main Reflector and Ground	S_g	0.679	Satisfies FCC MPE

Table 5. Summary of Expected Radiation levels for Controlled Environment

Region		Calculated Maximum Radiation Power Density Level (mW/cm^2)	Hazard Assessment
1. Far Field (R_{ff} = 1869.9 m)	S_{ff}	0.743	Satisfies FCC MPE
2. Near Field (R_{nf} = 779.1 m)	S_{nf}	1.735	Satisfies FCC MPE
3. Transition Region ($R_{nf} < R_t < R_{ff}$)	S_t	1.735	Satisfies FCC MPE
4. Between Main Reflector and Subreflector	S_{sr}	161.681	Potential Hazard
5. Main Reflector	$S_{surface}$	2.717	Satisfies FCC MPE
6. Between Main Reflector and Ground	S_g	0.679	Satisfies FCC MPE

It is the applicant's responsibility to ensure that the public and operational personnel are not exposed to harmful levels of radiation.

8. Conclusions

Based on the above analysis it is concluded that the FCC MPE guidelines have been exceeded (or met) in the regions of Table 4 and 5. The applicant proposes to comply with the MPE limits by one or more of the following methods.

Means of Compliance Uncontrolled Areas

This antenna will be located in a fenced area. The area will be sufficient to prohibit access to the areas that exceed the MPE limited. The general public will not have access to areas within ½ diameter removed from the edge of the antenna.

Since one diameter removed from the main beam of the antenna or ½ diameter removed from the edge of the antenna the RF levels are reduced by a factor of 100 or 20 dB. None of the areas exceeding the MPE levels will be accessible by the general public.

Radiation hazard signs will be posted while this earth station is in operation.

The applicant will ensure that no buildings or other obstacles will be in the areas that exceed the MPE levels.

Means of Compliance Controlled Areas

The earth stations operational will not have access to the areas that exceed the MPE levels while the earth station is in operation.

The transmitters will be turned off during antenna maintenance.

The applicant agrees to abide by the conditions specified in Condition 5208 provided below:

Condition 5208 - The licensee shall take all necessary measures to ensure that the antenna does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310 wherever such exposures might occur. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Compliance can be accomplished in most cases by appropriate restrictions such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling or by field measurements. The FCC's OET Bulletin 65 (available on-line at www.fcc.gov/oet/rfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for worker.

Prepared by:

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COMSEARCH
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Ashburn, VA 20147

FCC 312

Schedule B

Page 1: Location

FEDERAL COMMUNICATIONS COMMISSION

APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS

Technical and Operational Description)

(Place an "X" in one of the blocks below)

☐ License of New Station ☐ Registration of new Domestic Receive-Only Station ☐ Amendment to a Pending Application ☒ Modification of License/Registration ☐ Notification of Minor Modification

B1. Location of Earth Station Site. If temporary-fixed, mobile, or VSAT remote facility, specify area of operation and point of contact. If VSAT hub station, give its location For VSAT networks attach individual Schedule B, Page 1 sheets for each hub station and each remote station. Individually provide the Location, Points of Communications, and Destination Points for each hub and remote station.

B1a. Station Call Sign	B1b. Site identifier (HUB, REMOTE1, etc.)	B1c. Telephone Number	B1j. Geographic Coordinates N/S, Deg. - Min. - Sec. - E/W	B1k. Lat./Lon. Coordinates are:
E030115		(805) 674-9157	Lat. 21° - 20' - 8.9" N. Lon. 158° - 05' - 17.8" W.	☐ NAD-27 ☒ NAD-83

B1d. Mailing Street Address of Station or Area of Operation	B1e. Name of Contact Person
91-340 Farrington Highway	Leeana A. Smith-Ryland

B1f. City	B1g. County	B1h. State	B1i. Zip Code	B1l. Site Elevation (AMSL)
Kapolei	Honolulu	HI	96707	36.6

B2. Points of Communications: List the names and orbit locations of all satellites with which this earth station will communicate. The entry "ALSAT" is sufficient to identify the names and locations of all satellite facilities licensed by the U.S. All non-U.S. licensed satellites must be listed individually.

Satellite Name and Orbit Location	Satellite Name and Orbit Location	Satellite Name and Orbit Location
IS19 @ 166 ° EL		

B3. Destination points for communications using non-U.S. licensed satellites. For each non-U.S. licensed satellite facility identified in section B2 above, specify the destination point(s) (countries) where the services will be provided by this earth station via each non-U.S. license satellite system. Use additional sheets as needed.

Satellite Name	List of Destination Points

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APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B: (Technical and Operational Description)

B4. Earth Station Antenna Facilities: Use additional pages as needed.

(a) Site ID*	(b) Antenna ID**	(c) Quantity	(d) Manufacturer	(e) Model	(f) Antenna Size (meters)	(g) Antenna Gain Transmit and/or Receive (_____dBi at_____GHz)
	8.1	1	GD Satcom	8.1	8.1	58.0 dBi @ 12.67 GHz
						59.7 dBi @ 14.25 GHz

B5. Antenna Heights and Maximum Power Limits: (The corresponding Antenna ID in tables B4 and B5 applies to the same antenna)

(a) Antenna ID**	(b) Antenna Structure Registration No.	Maximum Antenna Height (c) Above Ground Level (meters)	Maximum Antenna Height (d) Above Mean Sea Level (meters)	(e) Building Height Above Ground Level (meters)***	(f) Maximum Antenna Height Above Rooftop (meters)***	(g) Total Input Power at antenna flange (Watts)	(h) Total EIRP for all carriers (dBW)
8.1		9.2	55.6	N/A	N/A	350	85.1

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FCC Form 312 - Schedule B: (Technical and Operational Description)

B6. Frequency Coordination Limits: Use additional pages as needed.

(a) Antenna ID*	(b) Frequency Limits (MHz)	(c) Range of Satellite Arc Eastern Limit**	(d) Range of Satellite Arc Western Limit**	(e) Antenna Elevation Angle Eastern Limit	(f) Antenna Elevation Angle Western Limit	(g) Earth Station Azimuth Angle Eastern Limit	(h) Earth Station Azimuth Angle Western Limit	(i) Maximum EIRP Density toward the Horizon (dBW/4kHz)
8.1	12,250 – 12,700	166.0°E.L.	166.0°E.L	42.6°	42.6°	243.3°	243.3°	
8.1	14,000 – 14,500	166.0°E.L.	166.0°E.L	42.6°	42.6°	243.3°	243.3°	-22.7

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FCC Form 312 - Schedule B: (Technical and Operational Description)

B7. Particulars of Operation (Full particulars are required for each r.f. carrier): Use additional pages as needed.

(a) Antenna ID*	(b) Frequency Limits (MHz)	(c) T/R Mode **	(d) Antenna Polarization (H,V,L,R)	(e) Emission Designator	(f) Maximum EIRP per Carrier (dBW)	(g) Maximum EIRP Density per Carrier (dBW/4kHz)	(h) Description of Modulation and Services
8.1	12,250 – 12,700	R	H,V	2M00G7W			Digital Data, Various FEC, Various Mod., Various Information
8.1	12,250 – 12,700	R	H,V	36M0G7W			Digital Data, Various FEC, Various Mod., Various Information
8.1	14,000 – 14,500	T	H,V	2M00G7W	72.6	45.6	Digital Data, Various FEC, Various Mod., Various Information
8.1	14,000 – 14,500	T	H,V	36M0G7W	85.1	45.6	Digital Data, Various FEC, Various Mod., Various Information

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SATELLITE SPACE AND EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B: (Technical and Operational Description)

If VSAT Network, provide the SITE-ID (Item B1b) of the station that B8-B13 are in response to (HUB, REMOTE1, etc.): _____

B8. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with **geostationary** satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurements? If NO, provide as an exhibit, a technical analysis showing compliance with two-degree spacing policy. ☒ **YES** ☐ **NO**

B9. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with **non-geostationary** satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurement? ☐ **YES** N/A ☐ **NO**

B10. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point. ☐ **YES** ☒ **NO**

Remote Control Point Location:

B10a. Street Address			
B10b. City	B10c. County	B10.d. State/Country	B10e. Zip Code
B10f. Telephone Number	B10g. Call Sign of Control Station (if appropriate)		

B11. Is frequency coordination required? If YES, attach a frequency coordination report as an exhibit. ☐ **YES** ☒ **NO**

B12. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as an exhibit. ☐ **YES** ☒ **NO**

B13. FAA Notification - (See 47 CFR Part 17and 47 CFR Part 25.113(c))
Where FAA notification is required, have you attached a copy of a completed FCC Form 854 ☐ **YES** ☒ **NO**

and/or the FAA's study regarding the potential hazard of the structure to aviation? EXISTING FACILITY
FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION