

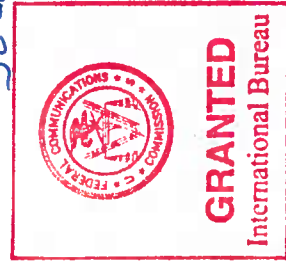
APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
Request for 30-day Special Temporary Authority Using a 7.3m S-band Antenna in Paumalu, Hawaii to Provide TT&C, LEOP, IOT,
and Drift for STPSat-4 Satellite

1. Applicant

Name:	Intelsat License LLC	Phone Number:	703-559-7848
DBA Name:		Fax Number:	703-559-8539
Street:	c/o Intelsat US LLC 7900 Tysons One Place	E-Mail:	susan.crandall@intelsat.com
City:	McLean	State:	VA
Country:	USA	Zipcode:	22102 -5972
Attention:	Susan H. Crandall		

"30 days"
"with conditions"



File # SES-STA-20190711-00911

Call Sign N/A Grant Date 08/05/2019
(or other identifier)

Term Dates
From: 11/16/2019 To: 12/16/2019

Approved: [Signature]

2. Contact	
Name:	Cynthia J.Grady
Company:	Intelsat US LLC
Street:	7900 Tysons One Place
Phone Number:	703-559-6949
Fax Number:	703-559-8539
E-Mail:	cynthia.grady@intelsat.com
City:	McLean
State:	VA
Country:	USA
Zipcode:	22102 -
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	
4a. Is a fee submitted with this application?	
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).	
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee	
<input type="radio"/> Other(please explain):	
4b. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station	
5. Type Request	
<input type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other	
6. Requested Use Prior Date	
7. CityPaumalu	
8. Latitude (dd mm ss.s h) 21 40 14.2 N	

9. State HI	10. Longitude (dd mm ss.s h) 158 2 7.8 W
11. Please supply any need attachments. Attachment 1: STA Request Attachment 2: Exhibit A Attachment 3: Exhibit B	
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.) <div style="border: 1px solid black; padding: 5px;"> <p>Intelsat License LLC herein requests a grant of Special Temporary Authority for 30 days, commencing November 16, 2019, to utilize a 7.3m S-band antenna located at is Paumalu, Hawaii teleport to provide telemetry, tracking, and command for the STPSat-4 satellite during launch and early orbit phase, in-orbit testing, drift, and in its final orbit.</p> </div>	
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"; party to the application; for these purposes. <p style="text-align: right;">Yes <input checked="" type="radio"/> No <input type="radio"/></p>	
14. Name of Person Signing Cynthia J. Grady	15. Title of Person Signing Senior Counsel, Intelsat US LLC
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.

Applicant: Intelsat License LLC-
File No.: SES-STA-20190711-00911
Call Sign: N/A
Special Temporary Authority

Intelsat License LLC ("Intelsat") is granted a special temporary authority for 30 days, beginning November 16, 2019, to utilize a 7.3m S-band antenna located at its Paumalu, Hawaii teleport to provide telemetry, tracking, and command ("TT&C") for the STPSat-4 satellite during launch and early orbit phase ("LEOP"), in-orbit testing ("IOT"), drift, and in its final orbit using the following frequencies: 2109.75 MHz (RHCP)(Earth-to-space) and 2277.90 MHz (space-to-Earth) under the following conditions:
The services are expected to last approximately one year.

1. Operations will not exceed the operational power levels and parameters.
2. All operations under this grant of special temporary authority shall be on an unprotected and non-harmful interference basis. Intelsat shall not cause harmful interference to and shall not claim protection from interference caused to it by, any other lawfully operating radio communication system.
3. In the event of any harmful interference under this grant of special temporary authority, Intelsat must cease operations immediately upon notification of such interference, and must inform the Commission, in writing, immediately of such an event.
4. Uplink operations from the Paumalu, HI teleport to the STPSat-4 satellite shall not occur when the NASA International Space Station (ISS) (NORAD designation 25544 or international spacecraft ID 1998-067A) is within the horizon to horizon view of the Intelsat License LLC facility in Paumalu, HI.
4. All operators of satellites will be provided with an emergency phone number where the licensee can be reached in the event that harmful interference occurs, Currently the 24x7 contact information for Intelsat 39 mission is Ph.: (703) 559-7701-East Coast Operations Center (primary); (310) 525-5591-West Coast Operations Center (back-up). Request to speak with Harry Burnham or Kevin Bell.
5. Any action taken or expense incurred as a result of operations pursuant to this special temporary authority is solely at Intelsat's risk.
6. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future Intelsat 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-20190711-00911
Call Sign N/A Grant Date 08/05/2019
(or other identifier)
Term Dates
From: 11/16/2019 To: 12/16/2019
Approved: [Signature]

"with conditions"



July 11, 2019

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Request for Special Temporary Authority
7.3m S-band Antenna, Paumalu, Hawaii

Dear Ms. Dortch:

Intelsat License LLC ("Intelsat") herein requests a grant of Special Temporary Authority ("STA")¹ for 30 days, commencing November 16, 2019, to utilize a 7.3m S-band antenna located at its Paumalu, Hawaii teleport to provide telemetry, tracking, and command ("TT&C") for the STPSat-4 satellite during launch and early orbit phase ("LEOP"), in-orbit testing ("IOT"), drift, and in its final orbit. The services are expected to last approximately one year, and Intelsat will be filing a 180-day STA request to support these services.

STPSat-4 is a Department of Defense Space Test Program satellite that will host a number of experimental payloads including the Air Force Research Laboratory ("AFRL") Modular RF Tile L-band Experiment.² STPSat-4 is a non-geosynchronous satellite with an apogee of 400 km and inclination angle of 51.6 degrees. The STPSat-4 operation will be performed using the following frequencies: 2109.75 MHz (RHCP; emission designator: 17K2G1D) in the uplink and 2277.90 MHz (RHCP; emission designators: 437KG1D and 875KG1D) in the downlink.

The 24x7 contact information for STPSat-4 mission is as follows:

Ph.: (703) 559-7701 – East Coast Operations Center (primary)
(310) 525-5591 – West Coast Operations Center (back-up)

Request to speak with Harry Burnham or Kevin Bell.

¹ Intelsat has filed its STA request, an FCC Form 159, a \$210.00 filing fee, and this supporting letter electronically via the International Bureau's Filing System ("IBFS").

² For more information, see www.nasa.gov/mission_pages/station/research/experiments/explorer/Investigation.html?id=7347.

Ms. Marlene H. Dortch
July 11, 2019
Page 2

In further support of this request, Intelsat attaches Exhibits A and B, which contains technical information that demonstrates that the operation of the earth station will be compatible with its electromagnetic environment and will not cause harmful interference into any lawfully operating commercial terrestrial facility and a document supporting STPSat-4 operations.

To the extent necessary, Intelsat seeks waiver of the U.S. Table of Frequency Allocations, which allocates the commercial use 2025-2110 MHz to the fixed and mobile services, and the use of 2200-2290 MHz solely to Federal services.

The Commission may grant a waiver for good cause shown. The Commission typically grants a waiver where the particular facts make strict compliance inconsistent with the public interest. In granting a waiver, the Commission may take into account considerations of hardship, equity, or more effective implementation of overall policy on an individual basis. Waiver is therefore appropriate if special circumstances warrant a deviation from the general rule, and such a deviation will serve the public interest. As shown below, good cause exists here to grant a waiver allowing Intelsat's 7.3m S-band antenna to operate in order to support STPSat-4's launch, IOT, and operations.

Good cause exists to waive the Table of Allocations for 2025-2110 MHz and 2200-2290 MHz frequency bands. While the commercial allocation in both bands does not include any satellite services, the Federal allocation includes space operation in both bands. Therefore, Intelsat's operations pursuant to grant of this STA will be consistent with the Federal allocations while supporting the Federal operator of STPSat-4 and will not increase the risk on interference.

Finally, Intelsat clarifies that during the STPSat-4 mission, the U.S. Air Force will control the spacecraft. Intelsat will remain in control of the baseband unit, RF equipment, and antenna.

Grant of this STA request will allow Intelsat to assist in safely launching, testing, and operating the STPSat-4 satellite, and thereby promotes the public interest.

Respectfully submitted,

/s/ Cynthia J. Grady

Cynthia J. Grady
Senior Counsel
Intelsat US LLC

cc: Paul Blais

Prepared By

COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Prepared For

Intelsat License LLC

Paumalu, Hawaii

Temporary Transmit-Only Earth Station
Operation Dates: 11/15/2019 - 05/15/2020

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Comsearch using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations. Verbal and written coordination was conducted with the below listed carriers on June 14, 2019.

Company

3G Wireless, LLC
AERIAL VIDEO SYSTEMS
Alascom Inc
Borgeson, Tom R.
Broadcast Sports Inc.
Casper, John
Chicago Comnet Corp
Citywide News Network, Inc.
Cowboys Stadium LP
CP Communications
DCI II, INC.
Direct Broadcast Services, Inc.
Federal Communication Commission
Frontier California Inc.
HF Enterprises, Inc
Hallco Unlimited, Inc.
Hawaii Public Television Foundation
Hawaiian Telcom, Inc.
Heiden, William
im360 Entertainment
Information & Display Systems, Inc.
Information Super Station, LLC
Interlink Network Corp
International Communications Group, Inc
International Electronic Information Services, Inc
KHNL/KGMB License Subsidiary, LLC
KITV, Inc
Loop inc
MERCURY COMMUNICATIONS
Microwave Video Systems, LLC
Moreen, Steven K
NEW ENGLAND DIGITAL DISTRIBUTION, INC.
NEXSTAR BROADCASTING, INC.

NSM Surveillance
Navajo Communications Company
Onboard Images
Pacific Bell Tel Com dba AT&T California
Pacific Television Cneter
Penn Service Microwave Co., Inc.
Plateau Telecommunications, Inc.
Plum TV, LLC
Production & Satellite Services, Inc.
REMOTE FACILITIES CONSULTING SERVICES
RF Central, LLC
RF Film, Inc
Radiofone, Inc.
Randy Hermes Production
Remote Broadcasts, Inc.
Speedshotz, Inc
TTWN Networks, LLC
Unisat, Inc.
United Telephone - Southeast
Vitec Broadcast Services, Inc
Vyvx, LLC
Westar Satellite Services LP
Winged Vision Inc
Wolfe Air Aviation

There are no unresolved interference objections with the station contained in these applications.

The following section presents the data pertinent to frequency coordination of the earth station that was circulated to all carriers within its coordination contours.

COMSEARCH
Earth Station Data Sheet
 19700 Janelia Farm Boulevard, Ashburn, VA 20147
 (703)726-5500 <http://www.comsearch.com>

Date: 06/14/2019
 Job Number: 190614COMSGE01

Administrative Information

Status: TEMPORARY (Operation from 11/15/2019 to 05/15/2020)
 Call Sign: TEMP05
 Licensee Code: INTELS
 Licensee Name: Intelsat License LLC

Site Information

PAUMALU, HI
 Venue Name
 Latitude (NAD 83): 21° 40' 14.2" N
 Longitude (NAD 83): 158° 2' 7.8" W
 Climate Zone: B
 Rain Zone: 4
 Ground Elevation (AMSL): 132.9 m / 436.0 ft

Link Information

Satellite Type: Geostationary
 Mode: TO - Transmit-Only
 Modulation: Digital
 Satellite Arc: 83° W to 233° West Longitude
 Azimuth Range: 95.6° to 264.3°
 Corresponding Elevation Angles: 5.2° / 5.3°
 Antenna Centerline (AGL): 5.49 m / 18.0 ft

Antenna Information

Transmit - FCC32
 Manufacturer: ViaSat
 Model: 7.3 FPA
 Gain / Diameter: 40.9 dBi / 7.3 m
 3-dB / 15-dB Beamwidth: 1.00° / 2.00°

Max Available RF Power (dBW/4 kHz): 17.8
 (dBW/MHz): 41.8

Maximum EIRP (dBW/4 kHz): 58.7
 (dBW/MHz): 82.7

Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
 Short Term -131.0 dBW/4 kHz 0.0025%

Frequency Information

Transmit 2.0 GHz
 Emission / Frequency Range (MHz): 17K2G1D / 2109.75

Max Great Circle Coordination Distance: 765.4 km / 475.5 mi
 Precipitation Scatter Contour Radius: 467.6 km / 290.5 mi

Coordination Values	PAUMALU, HI	
Licensee Name	Intelsat License LLC	
Latitude (NAD 83)	21° 40' 14.2" N	
Longitude (NAD 83)	158° 2' 7.8" W	
Ground Elevation (AMSL)	132.9 m / 436.0 ft	
Antenna Centerline (AGL)	5.49 m / 18.0 ft	
Antenna Model	ViaSat 7.3 meter	
Antenna Mode	Transmit 2.0 GHz	
Interference Objectives: Long Term	-154.0 dBW/4 kHz	20%
Short Term	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power	17.8 (dBW/4 kHz)	

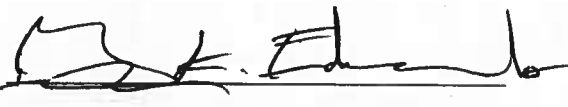
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	95.62	-10.00	369.42
5	0.00	90.64	-10.00	369.42
10	0.00	85.66	-10.00	369.42
15	0.00	80.68	-10.00	369.42
20	0.00	75.70	-10.00	369.42
25	0.00	70.72	-10.00	369.42
30	0.00	65.75	-10.00	369.42
35	0.00	60.77	-10.00	369.42
40	1.74	55.71	-10.00	184.71
45	2.11	50.71	-10.00	169.55
50	2.50	45.70	-9.50	159.68
55	2.56	40.71	-8.24	163.98
60	2.69	35.72	-6.82	167.10
65	2.68	30.73	-5.19	176.01
70	3.12	25.72	-3.26	172.15
75	2.87	20.77	-0.93	193.19
80	2.68	15.84	2.01	217.29
85	2.68	10.94	6.03	246.42
90	2.68	6.18	12.22	299.13
95	2.27	3.02	20.01	504.70
100	2.84	4.97	14.59	311.75
105	3.03	9.48	7.58	241.35
110	2.72	14.19	3.20	223.85
115	3.53	18.43	0.36	179.65
120	3.29	23.05	-2.07	173.47
125	3.24	27.55	-4.00	165.05
130	3.28	31.96	-5.61	155.93
135	3.20	36.34	-7.01	151.29
140	2.78	40.76	-8.26	157.25
145	2.25	45.11	-9.36	168.23
150	2.48	48.92	-10.00	157.82
155	2.22	52.72	-10.00	166.07
160	2.74	55.71	-10.00	149.87
165	2.75	58.43	-10.00	149.76
170	2.52	60.59	-10.00	156.60
175	2.86	61.41	-10.00	146.60
180	2.74	61.88	-10.00	150.00
185	2.48	61.78	-10.00	158.01

Coordination Values	PAUMALU, HI	
Licensee Name	Intelsat License LLC	
Latitude (NAD 83)	21° 40' 14.2" N	
Longitude (NAD 83)	158° 2' 7.8" W	
Ground Elevation (AMSL)	132.9 m / 436.0 ft	
Antenna Centerline (AGL)	5.49 m / 18.0 ft	
Antenna Model	ViaSat 7.3 meter	
Antenna Mode	Transmit 2.0 GHz	
Interference Objectives: Long Term	-154.0 dBW/4 kHz	20%
Short Term	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power	17.8 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	2.41	60.69	-10.00	160.01
195	2.31	58.73	-10.00	163.19
200	1.85	56.23	-10.00	179.48
205	1.28	53.21	-10.00	204.51
210	0.91	49.68	-10.00	229.91
215	0.91	45.72	-9.50	233.33
220	0.74	41.65	-8.49	262.92
225	1.04	37.25	-7.28	236.07
230	0.72	33.02	-5.97	288.11
235	0.39	28.71	-4.45	371.72
240	0.00	24.36	-2.67	439.46
245	0.00	19.82	-0.43	435.57
250	0.00	15.24	2.42	470.81
255	0.00	10.72	6.25	541.73
260	0.00	6.83	11.13	691.24
265	0.00	5.33	13.83	765.40
270	0.00	7.75	9.77	653.85
275	0.00	11.89	5.12	517.95
280	0.00	16.51	1.55	458.46
285	0.00	21.30	-1.21	452.72
290	0.00	26.17	-3.44	432.29
295	0.00	31.08	-5.31	414.83
300	0.00	36.01	-6.91	399.60
305	0.00	40.95	-8.31	386.08
310	0.00	45.90	-9.55	373.91
315	0.00	50.87	-10.00	369.42
320	0.00	55.83	-10.00	369.42
325	0.00	60.80	-10.00	369.42
330	0.00	65.78	-10.00	369.42
335	0.00	70.75	-10.00	369.42
340	0.00	75.73	-10.00	369.42
345	0.00	80.71	-10.00	369.42
350	0.00	85.69	-10.00	369.42
355	0.00	90.66	-10.00	369.42

Certification

I hereby certify that I am the technically qualified person responsible for the preparation of the frequency coordination data contained in this report. I am familiar with Parts 101 and 25 of the FCC Rules and Regulations and I have either prepared or reviewed the frequency coordination data submitted with this report, and that it is complete and correct to the best of my knowledge and belief.

BY: 

Gary K. Edwards
Senior Manager
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: July 1, 2019



UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and
Information Administration
Washington, D.C. 20230

FEB 08 2018

FOR AGENDA

SSS-105158

MEMORANDUM

TO: Shaobei Xu
Air Force Spectrum Management Office

FROM: Brandon Mitchell *Brandon Mitchell*
Chair, IRAC Space Systems Subcommittee (SSS)

SUBJECT: Air Force Request for Waiver from ITU International Registration of the STPSat-4 Satellite TT&C.

The Air Force, in its letter dated 23 June 2017 requests a waiver from the National Telecommunications and Information Administration (NTIA) for the STPSat-4 satellite (see SSS-102094).

The STPSat-4 satellite is a new Department of Defense (DoD) Space Test Program (STP) satellite. The STPSat-4 will host space technology experimental payloads such as the Air Force Research Laboratory (AFRL) Modular RF Tile L-band Experiment and other U.S. Air Force Academy undergraduate student education projects. The AFRL L-band experiment will be the only active transmitter while all other onboard payloads on the STPSat-4 satellite are passive devices. The STPSat-4 satellite is currently scheduled for launch in February 2018 and the intended use is less than one year.

The STPSat-4 satellite is a non-geosynchronous satellite with apogee and perigee of 400 km and an inclination angle of 51.6 degrees. The satellite will transmit on a of 2277.9 MHz (space-to-Earth) with a 437KG1D and 875KG1D (power of 2 Watt) emissions while in view of the ground stations located at Colorado Spring, CO and Houston, TX. The STPSat-4 receives on 2097.566 MHz (Earth-to-space) with 17K2G1D emission from the ground stations located Colorado Spring, CO and Houston, TX (see SPS-22315/1 and SPS-22567/1).

Based on the Air Force intended operational period of less than 12 months for the STPSat-4 satellite mission, Air Force requests a waiver from an international registration with the ITU Radiocommunication Bureau (BR) under Section 3.3.1.2 of the NTIA Manual, "Exemption Requests for Submitting Space System Information to the BR." This section provides that the practice of the United States is not to submit space system information to the BR if the intended length of the missions is 12 months or less.

This section of the Manual also states that:

An agency requesting exemption from international registration for a particular satellite system shall submit a request that the international registration be waived to the SSS.

The submission to the SSS shall include the following:

- a. a statement that the agency has reviewed the existing satellite systems registered with the ITU and determined their system is compatible;
- b. a statement that the agency will continue to monitor the international registration process for satellite systems that operate co-channel to the system for which they have requested a waiver and be responsible for taking the measures necessary to ensure compatibility with any new systems; and
- c. a statement that the agency recognizes that should a waiver of the international registration requirement be approved and interference occurs to or from their unregistered system, they have no status or rights under the ITU Radio Regulations (RR). Agencies operating such a system, without the benefit of the recognition and protection afforded by the international registration process, assume full responsibility for making modifications required to resolve any interference problems with systems operating in accordance with the RR.

The SSS and NTIA reviewed the request by Air Force to waive the international registration of the above subject operation. Air Force has fulfilled the requirements listed above. The SSS has no objections to the waiver being granted. Accordingly, NTIA hereby grants Air Force a waiver from international registration of the STPSAT-4 satellite.

NTIA grants this waiver subject to the following conditions:

1. Air Force shall continue to monitor the international process for systems that operate co-channel to this system and be responsible for taking the necessary measures concerning any new system that may not be compatible.
2. Air Force recognizes that this system will have no status or rights under the RR. If there is interference to or from this system, Air Force shall immediately make modifications to resolve all cases of interference.

The SSS Chair shall forward this memo to the IRAC, the Spectrum Planning Subcommittee, and the Frequency Assignment Subcommittee for information.