

14R as a point of communication in the conventional Ku-band pursuant to its Permitted List authority in the license. Harris CapRock now seeks to add the Telstar 14R as an authorized point of communication for the Vertex 6.3m gateway for extended Ku-band operations in the 11.45-11.7 GHz and 13.75-14.0 GHz bands.

Consistent with Section 25.117 of the Commission's rules, Harris CapRock provides the attached FCC Form 312 and Schedule B and associated exhibits for relevant information relating to the gateway earth station's operational characteristics in the 11.45-11.7 GHz and 13.75-14.0 GHz bands. The remaining technical information in Harris CapRock's earth station license and associated application remains unchanged.² Furthermore, as discussed below, Harris CapRock will comply with the Commission's rules and policies governing spectrum use of extended Ku-band frequencies for geostationary satellite orbit ("GSO") fixed-satellite service ("FSS") operations. The requested modification will serve the public interest by enhancing Harris CapRock's Ku-band satellite communication capabilities, thereby improving the critical services it provides to a wide array of users in the maritime, oil and gas industries.

II. Discussion

The United States Table of Frequency Allocations ("Table of Allocations"), Section 2.106 of the Commission's Rules, 47 C.F.R. § 2.106, identifies conditions for spectrum use by FSS in the extended Ku-band. In the 11.45-11.7 GHz downlink band, GSO FSS operations are limited to international systems, *i.e.*, other than U.S. domestic services. In the 13.75-14.0 GHz uplink band, GSO FSS operations are co-primary with U.S. government shipboard radar radiolocation and National Aeronautics and Space Administration ("NASA") Tracking and Data Relay Satellite Systems ("TDRSS") operations. As discussed below, Harris CapRock will operate the Vertex 6.3m consistent with the Table of Allocations and the Commission's policies governing use of the extended Ku-band.

a. 11.45-11.7 GHz Downlink Band

In the 11.45-11.7 GHz band, operations are co-primary with terrestrial FS and Harris CapRock's operations and use of this band by GSO FSS systems is limited to

² *Id.*

international systems. Harris CapRock is currently authorized to operate a gateway earth station at the same location in the extended band.³

Harris CapRock's proposed operations in the 11.45-11.7 GHz band are consistent with the Table of Allocations and similarly approved gateway earth station operations.⁴ Harris CapRock acknowledges that this downlink frequency band is shared co-equally with terrestrial systems and coordination with fixed service ("FS") licensees is required. The 11.45-11.7 GHz band was previously coordinated at this facility by Comsearch for a similar Vertex 9.3m gateway earth station and the Comsearch database already includes full arc (21° W.L. to 143 W.L.), full extended band (11.45 GHz-12.2 GHz) coordination for this site.

No FS operations that might be potentially affected by the proposed operations with T-14R could be authorized without first coordinating with Harris CapRock's licensed extended band operations. No such coordination requests have been received. Because the proposed operations of the Vertex 6.3m will be within the site's presently coordinated parameters, the Commission may grant the requested modification application without "re-coordination" of extended downlink band operations of the Vertex 6.3m.

In addition, there is no potential for the proposed operations to cause interference to other spectrum users because they are earth station receive operations and would be the victim of interference from terrestrial transmit operations. Harris CapRock expressly accepts the potential risk of relying on the prior coordination report and future coordination with its co-located Vertex 9.3m gateway to "protect" the proposed Vertex 6.3m receive operations in this band.

Finally, Harris CapRock notes that footnote NG52 in the U.S. Table of Allocations provides that use of the 11.45-11.7 GHz band "by geostationary satellites in the fixed-satellite service (FSS) shall be limited to international systems, *i.e.*, other than

³ See Harris CapRock, File No. SES-LIC-20031028-01500 (Call Sign E030253) (granted on January 13th, 2004).

⁴ See, *e.g.*, Intelsat License LLC, File No. SES-LIC-20120106-00020, Call Sign E120009 (FCC granted Intelsat authority to operate a fixed gateway earth station in the 11.45-11.7 GHz band in Riverside, California).

domestic systems.”⁵ The proposed operations, which are limited to supporting gateway links for ESV terminals on foreign-flagged vessels transiting U.S. and international waters and offshore oil rigs, are consistent with the policies underlying this provision. Indeed, previously granted authority to operate at this site in this frequency band strongly supports this conclusion.

To the extent necessary, Harris CapRock requests a waiver of footnote NG52 to grant this modification application. The policies underlying the rule would not be undermined because extended Ku-band receive operations are already conducted at this site, so there would be no expansion of such operations into new areas. Furthermore, the public interest would be served by granting such a waiver, which would enable Harris CapRock to conduct limited but important gateway operations with T-14R to support the maritime and oil and gas industries.

b. 13.75-14.0 GHz Uplink Band

Harris CapRock accepts that the 13.75-14.0 GHz band is allocated to FSS Earth-to-space uplink transmissions on a co-primary basis with U.S. government shipboard radiolocation services and NASA TDRSS operations. As demonstrated in Exhibit A, Harris CapRock will operate the Vertex 6.3m earth station in the 13.75-14.0 GHz band in accordance with the Table of Allocations and FCC Report and Order 96-377⁶ in order to protect U.S. government operations from harmful interference. The Commission has previously granted authority for fixed earth stations to operate in the extended 13.75-14.0 GHz transmit Ku-band and Harris CapRock proposed use of the Vertex 6.3m will be consistent with similarly approved operations.⁷ Finally, Harris CapRock certifies that its proposed operations of the Vertex 6.3m are consistent with antenna size and power level

⁵ See United States Table of Allocations, 47 C.F.R. § 2.106, footnote NG52.

⁶ See *Amendment of Parts 2, 25 and 90 of the Commission's Rules to Allocate 13.75-14.0 GHz Band to the Fixed-Satellite Service*, Report and Order, FCC 96-377 (Rel. September 26, 1996).

⁷ See Intelsat License LLC, File No. SES-MFS-20131111-00952 (Call Sign E000063); Globecom License Sub LLC, File No. SES-MOD-20101014-01388 (Call Sign E020288).

requirements in footnote US356 of the Table of Allocations.⁸

Grant of the requested authority will serve the public interest by allowing the near-term use of the extended Ku-band band and ensure uninterrupted satellite communication services, thereby improving the critical services its provides to a wide array of users in the maritime, oil and gas industries.

III. Conclusion

Based on the foregoing, Harris CapRock respectfully requests that the Commission grant its application to modify its existing fixed earth station license, Call Sign E030253, by adding Telstar 14R as an authorized point of communications for the Vertex 6.3m in the 11.45-11.7 GHz band and 13.75-14.0 GHz band.

⁸ United States Table of Allocations, 47 C.F.R. § 2.106, footnote US356.

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:

- a. Fixed Satellite
 b. Mobile Satellite
 c. Radiodetermination Satellite
 d. Earth Exploration Satellite
 e. Direct to Home Fixed Satellite
 f. Digital Audio Radio Service
 g. Other (please specify)

21. STATUS: Choose the button next to the applicable status. Choose only one.

- Common Carrier Non-Common Carrier

22. If earth station applicant, check all that apply.

- Using U.S. licensed satellites
 Using Non-U.S. licensed satellites

23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:

- Connected to a Public Switched Network Not connected to a Public Switched Network N/A

24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).

- a. C-Band (4/6 GHz) b. Ku-Band (12/14 GHz)
 c. Other (Please specify upper and lower frequencies in MHz.)
 Frequency Lower: Frequency Upper: (Please specify additional frequencies in an attachment)

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- a. Fixed Earth Station
 b. Temporary-Fixed Earth Station
 c. 12/14 GHz VSAT Network
 d. Mobile Earth Station
 e. Geostationary Space Station
 f. Non-Geostationary Space Station
 g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY:

- Transmit/Receive Transmit-Only Receive-Only N/A

"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

- a -- authorization to add new emission designator and related service
 b -- authorization to change emission designator and related service
 c -- authorization to increase EIRP and EIRP density
 d -- authorization to replace antenna
 e -- authorization to add antenna
 f -- authorization to relocate fixed station
 g -- authorization to change frequency(ies)
 h -- authorization to add frequency
 i -- authorization to add Points of Communication (satellites & countries)
 j -- authorization to change Points of Communication (satellites & countries)
 k -- authorization for facilities for which environmental assessment and radiation hazard reporting is required
 l -- authorization to change orbit location
 m -- authorization to perform fleet management
 n -- authorization to extend milestones
 o -- Other (Please specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments. Yes No

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or

aeronautical fixed radio station services are not required to respond to Items 30-34.

29. Is the applicant a foreign government or the representative of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No
30. Is the applicant an alien or the representative of an alien?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A
32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A
33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A
34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.	

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	<input type="radio"/> Yes <input checked="" type="radio"/> No
36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.	<input type="radio"/> Yes <input checked="" type="radio"/> No
37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.	<input type="radio"/> Yes <input checked="" type="radio"/> No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances	<input type="radio"/> Yes <input checked="" type="radio"/> No
39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhibit, an explanation of the circumstances.	<input type="radio"/> Yes <input checked="" type="radio"/> No
40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.	
41. 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. <i>See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.</i>	<input checked="" type="radio"/> Yes <input type="radio"/> No
42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.	<input checked="" type="radio"/> Yes <input type="radio"/> No
42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station? Permitted List	

43. Description. (Summarize the nature of the application and the services to be provided). **Harris CapRock seeks authority to operate its previously licensed 6.3m Model Ku-band gateway earth station located in Houston, Texas while communicating with a Permitted List satellite in the 11.45-11.7 (space-to-Earth) and 13.75-14.0 GHz (Earth-to-space) bands.** Narrative Statement

43a. Geographic Service Rule Certification By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.	<input checked="" type="radio"/> A
By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.	<input type="radio"/> B
By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.	<input type="radio"/> C

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CERTIFICATION

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 license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Governmental Entity
- Other (please specify)

45. Name of Person Signing EllenAnn Sands	46. Title of Person Signing Legal Counsel
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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).

**SATELLITE EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B:(Technical and Operational Description)**

FOR OFFICIAL USE ONLY

Location of Earth Station Site			
E1. Site Identifier:	1	E5. Call Sign:	E030253
E2. Contact Name	NOC	E6. Phone Number:	832-668-2300
E3. Street:	4400 S. Sam Houston Pkwy, E.	E7. City:	Houston
E4. State	TX	E8. County:	
E10. Area of Operation:		E9. Zip Code	77048
E11. Latitude:	29 ° 35 ' 54.0 " N	Houston, Texas	
E12. Longitude:	95 ° 20 ' 50.0 " W		
E13. Lat/Lon Coordinates are:		<input type="radio"/> NAD-27	<input checked="" type="radio"/> NAD-83
E14. Site Elevation (AMSL):	16.1 meters	<input type="radio"/> N/A	

E15. 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 measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
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E16. 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 measurements?	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
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E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<input checked="" type="radio"/> Yes	<input type="radio"/> No
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E18. Is frequency coordination required? If YES, attach a frequency coordination report as FCC 96-377 Compliant	<input type="radio"/> Yes	<input checked="" type="radio"/> No
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E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	<input type="radio"/> Yes	<input checked="" type="radio"/> No
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E20. FAA Notification - (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation?	<input type="radio"/> Yes	<input checked="" type="radio"/> No
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FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.

POINTS OF COMMUNICATION

Satellite Name: ESTRELA DO SUL 2 | ESTRELA DO SUL 2 | 63 W.L. If you selected OTHER, please enter the following:

E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

POINTS OF COMMUNICATION (Destination Points)

E25. Site Identifier: 1	
E26. Common Name:	E27. Country: USA

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size	E41/42. Antenna Gain Transmint and/or Recieve(____dBi at ____GHz)
1	5	1	Vertex	Cassegrain	6.3	57.3 dBi at 13.875
1	5	1	Vertex	Cassegrain	6.3	57.5 dBi at 14.1250

E28. Antenna Id	E33/34. Diameter Minor/Major(meters)	E35. Above Ground Level(meters)	E36. Above Sea Level(meters)	E37. Building Height Above Ground Level(meters)	E38. Total Input Power at antenna flange(Watts)	E39. Maximum Antenna Height Above Rooftop(meters)	E40. Total EIRP for al carriers(dBW)
5	0.0/0.0	9.1	25.2	0.0	350.0	0.0	82.94

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands(MHz)	E45. T/R Mode	E46. Antenna Polarization(H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier(dBW)	E49. Maximum EIRP Density per Carrier(dBW/4kHz)
5	11450 11700	R	Horizontal and Vertical	3M00G7W	0.0	0.0

E50. Modulation and Services Digital

5	11450 11700	R	Horizontal and Vertical	6M00G7W	0.0	0.0
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E50. Modulation and Services Digital

5	13750 14000	T	Horizontal and Vertical	18M0G7W	65.4	28.87
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E50. Modulation and Services Digital

5	13750 14000	T	Horizontal and Vertical	9M00G7W	62.4	28.88
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E50. Modulation and Services Digital

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/Western Limit	E56. Earth Station Azimuth Angle Eastern Limit	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon(dBW/4kHz)
5	Geostationary	11450 11700	45.0/143.0	112.3	25.9	245.8	28.2	0.0
	Geostationary	13750 14000	45.0/143.0	112.3	25.9	245.8	28.2	-38.63

REMOTE CONTROL POINT LOCATION

E61. Call Sign E030253 <i>NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.</i>			E66. Phone Number 832-668-2300		
E62. Street Address 4400 S. Sam Houston Pkwy. E					
E63. City Houston		E68. County Harris		E67/68. State/Country TX/ USA	E64. Zip Code 77048

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