S2933 SAT-LOA-20141010-00107

Skynet Satellite Corporation

TELSTAR 12 VANTAGE

IB2014002031

*** GRANT IN PART / DEFER IN PART * * File # SAT-LOA - 20141010 - 00107 From conditions International Bureau Approved:

Call Sign <u>52933</u> Grant Date <u>05/11/15</u> (or other identifier)

see

To:

Term Dates

see conditions

Approved by OMB 3060-0678

Date & Time Filed: Oct 10 2014 2:29:34:660PM

File Number: SAT-LOA-20141010-00107

Callsign/Satellite ID: S2933

+ with conditions

Chief, Satellite Policy Branch

APPLICATION FOR SATELLITE SPACE STATION AUTHORIZATIONS FCC 312 MAIN FORM FOR OFFICIAL USE ONLY

FCC Use Only

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:

T12V application for authority (Oct 2014) - REFILE

1-8. Legal Name of Applicant

Name:

Skynet Satellite Corporation

Phone Number:

613-748-8700

DBA Name:

Fax Number:

613-748-8712

Street:

135 Route 202/206

E-Mail:

JForsey@telesat.com

City:

Bedminster

State:

NJ

Country:

USA

Zipcode:

07921

Attention:

John Forsey

The application of Skynet Satellite Corporation (Skynet), IBFS File No. SAT-LOA-20141010-00107, for authority to launch and operate a Ku-and Ka-band geostationary orbit (GSO) space station, to be known as Telstar 12 Vantage (Telstar 12V), at the 15° W.L. orbital location, is GRANTED IN PART and DEFERRED IN PART. Skynet is authorized to operate Telstar 12V (Call Sign S2933) to provide Fixed-Satellite Services (FSS) in the 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz, 11.7-12.2 GHz (space-to-Earth), 13.75-14.5 GHz (Earth-to-space), 18.3-18.8 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 28.35-28.9 GHz (Earth-to-space) and 29.25-29.5 GHz, 29.5-30.0 GHz (Earth-to-space) frequency bands. Skynet is also authorized to operate Telstar 12V using the 28.6-28.9 GHz (Earth-to-space) frequency band on a secondary basis and the 12.5-12.75 GHz (space-to-Earth) and 18.8-19.1 GHz (space-to-Earth) frequency bands on a non-conforming basis. In addition, Skynet is authorized to conduct telemetry, tracking, and command (TT&C) operations using the following center frequencies: 14497.6 MHz, 14499.6 MHz, 11700 MHz, and 11701 MHz. Operations under this authorization must be in accordance with the terms, conditions, and technical specifications set forth in Skynet's application and the Federal Communications Commission's rules not waived herein, and are subject to the following conditions:

- 1. Skynet must prepare the necessary information, as may be required, for submission to the International Telecommunication Union (ITU) to initiate and complete the advance publication, international coordination, due diligence, and notification process of this space station, in accordance with the ITU Radio Regulations. Skynet will be held responsible for all cost-recovery fees associated with ITU filings. No protection from interference caused by radio stations authorized by other Administrations is guaranteed unless coordination and notification procedures are timely completed or, with respect to individual administrations, coordination agreements are successfully completed. Any radio station authorization for which coordination has not been completed may be subject to additional terms and conditions as required to effect coordination of the frequency assignments with other Administrations. See 47 C.F.R. § 25.111(b).
- 2. In connection with the provision of service in any particular country, Skynet is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country.
- 3. Skynet must operate Telstar 12V at the 15° W.L. orbital position in compliance with all existing or future coordination agreements for this location.
- 4. Skynet must maintain Telstar 12V within an east/west longitudinal station-keeping tolerance of \pm 0.05 degrees of the 15° W.L. orbital location.
- 5. Skynet's use of the 10.95-11.2 GHz and 11.45-11.7 GHz frequency bands is limited to international operations in accordance with footnote NG52 to the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, NG52.
- 6. Skynet's use of the 10.95-11.2 GHz and 11.45-11.7 GHz (space-to-Earth) frequency bands is subject to footnote US211 to the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, US211, which urges applicants for airborne or space station assignments to take all practicable steps to protect radio astronomy observations in the adjacent bands from harmful interference, consistent with footnote US74.

¹ Operations of Telstar 12V in the 11.2-11.45 GHz (space-to-Earth) and 13.0-13.25 GHz (Earth-to-space) frequency bands will be addressed separately at a later time.

- 7. Skynet's use of the 11.95-12.2 GHz (space-to-Earth) to provide FSS in International Telecommunication Union (ITU) Region 1 must be on a non-interference, unprotected basis.²
- 8. In the 13.75-14.0 GHz band (Earth-to-space), receiving space stations in the FSS must not claim protection from radiolocation transmitting stations operating in accordance with the United States Table of Frequency Allocations. Pursuant to footnote US337 of the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, US337, any earth station in the United States and its possessions communicating with the Telstar 12V space station in the 13.75-13.8 GHz band (Earth-to-space) is required to coordinate earth stations in the fixed-satellite service with the National Telecommunications and Information Administration (NTIA) on a case-by-case basis in order to minimize harmful interference to the Tracking and Data Relay Satellite System's forward space-to-space link (TDRSS forward link-to-LEO).
- 9. Operations of any earth station in the United States and its possessions communicating with the Skynet 12V space station in the 13.75-14.0 GHz band (Earth-to-space) must comply with footnote US356 to the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, US356, which specifies a mandatory minimum antenna diameter of 4.5 meters and the maximum equivalent isotropically radiated powers (EIRP) of any emission should be at least 68 dBW and should not exceed 85 dBW. Operations of any earth station located outside the United States and its possessions communicating with the Telstar 12V space station in the 13.75-14.0 GHz band (Earth-to-space) must be consistent with footnote 5.502 to the ITU Radio Regulations, which allows a minimum antenna diameter of 1.2 meters for earth stations of a geostationary satellite orbit network and specifies mandatory power limits.
- 10. Operations of any earth station in the United States and its possessions communicating with the Telstar 12V space station in the 13.77-13.78 GHz band (Earth-to-space) must comply with footnote US357 to United States Table of Frequency Allocations, 47 C.F.R. § 2.106, US357, which specifies a maximum EIRP density of emissions of 71 dBW in any 6 MHz band for communications with a space station in geostationary-satellite orbit.³ Operations of any earth station located outside the United States and its possessions communicating with the Telstar 12V space station in the 13.77-13.78 GHz band (Earth-to-space) must comply with footnote 5.503 to the ITU Radio Regulations, which specifies a maximum EIRP density of emissions, based on the antenna diameter, for communications with a space station in geostationary-satellite orbit.
- 11. Skynet must coordinate its operations in the 18.3-19.1 GHz (space-to-Earth) and 19.7-20.2 GHz frequency band with the U.S. Federal Systems, including Federal operations to earth stations in foreign countries in accordance with US Footnote US334 to the United States Table of Frequency Allocations, 47 C.F.R 2.106.

² Skynet states that the South Atlantic beam of the Telstar 12V satellite, which transmits in the 11.95-12.2 GHz band, has coverage in both ITU Region 1 and 2. In Region 1, this band is allocated to the Broadcasting-Satellite Service, and restrictions on new or modified assignments preclude Skynet's proposed entry. Therefore, Skynet states that any operations in the 11.95-12.2 GHz band that fall within Region 1 will be on a non-interference, unprotected basis. Skynet Satellite Corporation, IBFS File No. SAT-LOA-20141010-00107, Supplement filed April 17, 2015.

³ Footnote US357 places a restriction on FSS earth station operations in order to protect government operations in the band, including manned space flight. 47 C.F.R. § 2.106, US357.

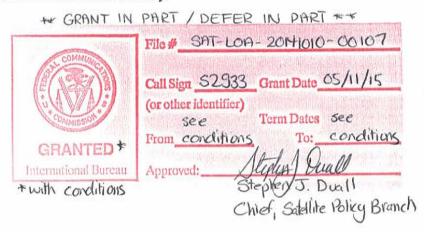
- 12. The power-flux density (pfd) at the Earth's surface produced by the emissions from the Telstar 12V space station for all atmospheric conditions, and for all methods of modulation in the 18.3-19.1 and 19.7-20.2 GHz frequency bands (space-to-Earth), must not exceed a level of -119 dBW/m²/MHz at any angle of arrival.⁴
- 13. Skynet's request for a waiver of Footnote NG165 to Section 2.106 of the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, to permit operations of its Telstar 12V GSO FSS space station in the 18.8-19.1 GHz (space-to-Earth) frequency band on a non-conforming basis is GRANTED. In the United States, the 18.8-19.1 GHz band is designated for non-Federal NGSO FSS operations on a primary basis, with no designation for non-Federal GSO operations. The 18.8-19.1 GHz band is also allocated to Federal GSO and NGSO FSS operations on a primary basis. As a non-conforming user, Skynet must accept any interference from any non-Federal NGSO FSS system, and Federal GSO FSS or NGSO FSS system authorized to use this band. In addition, Skynet must not cause harmful interference to any authorized non-Federal NGSO FSS system, and authorized Federal GSO FSS or NGSO FSS system, and must immediately cease operations upon notification of such harmful interference resulting from its operations.
- 14. Skynet's request for a waiver of Section 25.283(c) of the Commission's rules is GRANTED. Section 25.283(c) requires discharge of all stored energy sources when a space station is retired from service. Telstar 12V is an EADS Astrium 3000 series satellite, which does not completely discharge all stored energy at end-of-life. Telstar 12V's propellant tanks will be depleted upon spacecraft disposal at mission completion. The helium pressurant tank, however, will be isolated from the fuel system when the satellite reaches the geostationary orbit and will retain a total mass of 1.2 kilograms with a volume of 179.5 liters at the end-of-life. The information submitted by Skynet is not sufficient to support a finding that the underlying purpose of Section 25.283(c) would be served by sealing the helium tank without completely venting it. However, we grant a partial waiver of the rule because undue hardship would result from requiring a modification of the space station at this time. This action is without prejudice to any future licensing decisions in connection with other spacecraft of the same manufacturing series.
- 15. The 29.25-29.5 GHz band is designated for uplinks for FSS systems using geostationary satellites and for feeder uplinks for Mobile Satellite Service systems using non-geostationary orbit satellites on a co-primary basis. Telstar 12V's operations in the 29.25-29.5 GHz frequency band must comply with Section 25.258 of the Commission's rules. 47 C.F.R. § 25.258.
- 16. Telstar 12V's operations in the 28.6-28.9 GHz band are on a secondary basis. Skynet must not cause harmful interference to any non-Federal station authorized to operate on a primary basis in the 28.6-28.9 GHz frequency band, must accept any interference from these systems, and must terminate operations immediately upon notification of harmful interference.
- 17. The operations of Telstar 12V and associated earth stations must comport with the applicable uplink limits in 47 C.F.R. §§ 25.138, 25.211, 25.218, 25.222, 25.226, and/or 25.227, and the downlink limits in 47 C.F.R. §§ 25.138(a)(6) and/or 25.212(c)(2), unless Skynet coordinates any non-conforming operation with the operations of U.S.-licensed geostationary orbit space stations within 6

3

⁴ Footnote US255 to the U.S. Table of Frequency Allocations, 47 C.F.R. § 2.106, requires that the pfd across the 200 megahertz of the 18.6-18.8 GHz band not exceed -95 dBW/m²/200 MHz. Skynet proposes to operate the Telstar 12V space station with a maximum pfd of -119 dBW/m²/MHz in the bands 18.3-19.1 and 19.7-20.2 GHz. This level corresponds to a maximum pfd of -95.99 dBW/m²/200 MHz. Consequently, Telstar 12V's proposed operations meet the pfd limit in US255. Skynet's operations also meet other pfd limits for transmitting in Ka-band frequencies. See 47 C.F.R. 25.138(a)(6), 25.208(c), 25.208(d), and 25.208(e).

degrees of the 15° W.L. orbital location. Non-conforming operation must also be coordinated with respect to those operations of non-U.S. licensed space stations within 6 degrees of 15° W.L. involving approved communications with U.S.-licensed earth stations.

- 18. The license term for the space station is 15 years and will begin on the date that Skynet certifies to the Commission that Telstar 12V has been successfully placed into orbit and its operations fully conform to the terms and conditions of this authorization. Skynet is directed to file its certification of commencement of operation with the Commission within five business days of Telstar 12V being placed into operation at the 15° W.L. orbital location.
- 19. In supplements to its application, Skynet submitted evidence that it has met the first three milestones for the Telstar 12V space station and requested a reduction in the required bond, pursuant to Section 25.165 of the Commission's rules, 47 C.F.R. § 25.165. Based on the evidence provided, the Satellite Division finds that Skynet has satisfied the first three milestones required for a geostationary satellite: enter into a binding, non-contingent contract; complete critical design review; and begin construction of the satellite. As a result, the milestone and bond requirements are reduced. Accordingly, this authorization shall be null and void with no further action on the Commission's part if Skynet does not meet the following requirements:
 - a. Skynet must file a bond in the amount of \$750,000, pursuant to the procedures set forth in 47 C.F.R. § 25.165, within 30 days of this authorization (June 10, 2015);
 - b. Launch and begin operations within two years (May 11, 2017).
- 20. Skynet is afforded 30 days from the date of release of this grant and authorization to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.
- 21. 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.



⁵ Skynet submitted information demonstrating that the first three milestones required for GSO space systems have been satisfied for Telstar 12V. *See* Letters to Jose Albuquerque, Chief, Satellite Division, FCC from Joseph Godles, Counsel for Skynet Satellite Corporation (Oct. 28, 2014 and Feb. 27, 2015).

9–16. Name of Contact Representative

Name:

Joseph A. Godles

Phone Number:

202-429-4900

Company:

Goldberg Godles Wiener & Wright Fax Number:

202-429-4912

LLP

Street:

1229 19th Street, NW

E-Mail:

jgodles@g2w2.com

City:

Washington

State:

DC

Country:

USA

Zipcode:

20036

-2413

Attention:

Relationship:

Legal Counsel

CLASSIFICATION OF FILING

17. Choose the buttonnext to the classification that applies to thisfiling for both questions a. and b. Choose only one for 17a and only one for 17b.

a.

(N/A) a1. Earth Station

a2. Space Station

b.

o b1. Application for License of New Station

(N/A) b2. Application for Registration of New Domestic Receive-Only Station

(N/A) b3. Amendment to a Pending Application

(N/A) b4. Modification of License or Registration

(N/A) b5. Assignment of License or Registration

(N/A) b6. Transfer of Control of License or Registration

(N/A) b7. Notification of Minor Modification

(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite

6 b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States

↑ b10. Replacement Satellite Application – no new frequency bands

• b11. Replacement Satellite Application – new frequency bands (Not eligible for streamlined processing)

b12. Petition for Declaratory Ruling to be Added to the Permitted List

(N/A) b13. Other (Please specify)

17c. Is a fee submitted with this application?		
o If Yes, complete and attach FCC Form 159.		
If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114	If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).	
Governmental Entity Noncommercial educational licensee		
Other(please explain): Application is refiled without fee per DA 14–1353		
17c. Fee Classification BNY – Space Station (Geostationary)		
18. If this filing is in reference to an existing station, enter:		
(a) Call sign of station:		
Not Applicable		
19. If this filing is an amendment to a pending application enter:		
(a) Date pending application was filed:	(b) File number of pending application:	
	(-) 2- k akk	
Not Applicable	Not Applicable	

TYPE OF SERVICE

e or use the following type(s) of service(s): Select all that apply:		
d. Earth Exploration Satellite		
e. Direct to Home Fixed Satellite		
22. If earth station applicant, check all that apply. Not Applicable		
ervice, see instructions regarding Sec. 214 filings. Choose one.Are these		
o a Public Switched Network N/A		
pplicable frequency band(s).		
c.Other (Please specify upper and lower frequencies in MHz.)		
ional frequencies in an attachment)		

TYPE OF STATION

of all and of attention of
25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.
(N/A) a. Fixed Earth Station (N/A) b. Temporary—Fixed Earth Station (N/A) c. 12/14 GHz VSAT Network (N/A) d. Mobile Earth Station e. Geostationary Space Station. f. Non—Geostationary Space Station g. Other (please specify)
26. TYPE OF EARTH STATION FACILITY: Not Applicable
PURPOSE OF MODIFICATION
27. The purpose of this proposed modification is to: (Place an "X" in the box(es) next to all that Not Applicable apply.)
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.
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?	O Yes No
30. Is the applicant an alien or the representative of an alien?	O Yes ⊗ No O N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	O Yes ⊗ No O 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?	O Yes ● No O 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?	
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.	Response to Q34

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.	
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 explination of circumstances.	• Yes • No Response to Q36
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 explination of circumstances.	Yes 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	O Yes O 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 exhinit, an explanation of the circumstances.	O Yes 🔊 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.	Response to Q40
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. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.	● Yes ● 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.	O Yes O 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?	

	Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in x, please go to the end of the form to view it in its entirety.)	this
	Applicant seeks herein authority for Telstar 12V (T12V), a replacement satellite at 15 degrees W.L.	
N	Varrative	

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.	⊚ 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.	O 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.	o c
	GIMS

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.)
o Individual	
Unincorporated Association	
Partnership	
© Corporation	
O Governmental Entity	
Other (please specify)	
45. Name of Person Signing Chris DiFrancesco	46. Title of Person Signing . Secretary
47. Please supply any need attachments.	
1:	2: 3:
ř	
(U.S. Code, Title 18, Section	ADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

Completed Schedule S

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 0.25-24 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.