

S2930 SAT-AMD-20150407-00018 IB2015000646  
DIRECTV Enterprises, LLC  
DIRECTV 15



\*with conditions

File # SAT-AMD-2015 0407-00018

See also  
SAT-LOA-20140825-00094

Call Sign S2930 Grant Date 05/20/15

(or other identifier)

From see conditions Term Dates see conditions To: conditions

Approved by OMB  
3060-0678

Approved: Stephen J. Duall

Stephen J. Duall  
Chief, Satellite Policy Branch

Date & Time Filed: Apr 7 2015 4:31:38:166PM  
File Number: SAT-AMD-20150407-00018

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD – MAIN FORM	FCC Use Only
FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:  
DIRECTV 15 AMD

1-8. Legal Name of Applicant

<b>Name:</b>	DIRECTV Enterprises, LLC	<b>Phone Number:</b>	301-663-0053
<b>DBA Name:</b>		<b>Fax Number:</b>	240-358-0569
<b>Street:</b>	2230 E. Imperial Hwy CA/LAI/N340	<b>E-Mail:</b>	jwengryniuk@directv.com
<b>City:</b>	El Segundo	<b>State:</b>	CA
<b>Country:</b>	USA	<b>Zipcode:</b>	90245 -
<b>Attention:</b>	Mr Jack M Wengryniuk		

**DIRECTV Enterprises, LLC**  
**IBFS File No. SAT-LOA-20140825-00094; SAT-AMD-20150407-00018**  
**Call Sign S2930**

The application of DIRECTV Enterprises, LLC (DIRECTV), IBFS File No. SAT-LOA-20140825-00094,<sup>1</sup> as amended by SAT-AMD-20150407-00018, for authority to construct, launch and operate a geostationary orbit space station, to be known as DIRECTV 15 (Call Sign S2930), at the 102.75° W.L. orbital location, IS GRANTED. Accordingly, DIRECTV is authorized to operate the DIRECTV 15 space station at the 102.75° W.L. orbital location to provide Fixed-Satellite Service, including direct-to-home services, in the 28.35-28.6 GHz, 29.25-29.29 GHz, and 29.5-30.0 GHz (Earth-to-space), and the 18.3-18.59 GHz and 19.7-20.2 GHz (space-to-Earth) frequency bands. DIRECTV is also authorized to conduct telemetry, tracking, and command (TT&C) operations necessary to maintain DIRECTV 15 at the 102.75° W.L. orbital location by conducting TT&C at the edges of the 19.7-20.2 GHz (space-to-Earth) and 29.5-30.0 GHz (Earth-to-space) frequency bands. Operations under this authorization are subject to the terms, conditions, and technical specifications set forth in DIRECTV's application and the Federal Communications Commission's rules, and are subject to the conditions set forth below.

1. DIRECTV 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 for this space station, in accordance with the ITU Radio Regulations. DIRECTV shall be 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, by successfully completing coordination agreements. 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. DIRECTV must operate the DIRECTV 15 space station at the 102.75° W.L. orbital location in compliance with all existing and future coordination agreements.

3. DIRECTV must maintain the DIRECTV 15 space station within an east-west longitudinal station-keeping tolerance of  $\pm 0.025^\circ$  of its assigned 102.75° W.L. orbital location.

4. DIRECTV must coordinate its space-to-Earth operations in the 18.3-18.59 GHz and the 19.7-20.2 GHz frequency bands with the U.S. Federal Systems, including Federal operations to earth stations in foreign countries, in accordance with footnote US334 to the U.S. Table of Frequency Allocations, 47 C.F.R. § 2.106.

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<sup>1</sup> This application was placed on public notice as acceptable for filing. Policy Branch Information Satellite Space Applications Accepted for Filing, Public Notice, Report No. SAT-01043 (Oct. 3, 2014). SES Americom, Inc. (SES) and Ciel Satellite Limited Partnership (Ciel) filed a consolidated Petition to Defer against this application, requesting that the Commission defer granting operating authority for the DIRECTV 15 space station until DIRECTV has completed coordination with Ciel of DIRECTV's RB-2 17/24 GHz space station (Call Sign S2712), which is on the same satellite as the DIRECTV 15 space station. DISH Operating LLC filed a Petition to Deny or Defer, asking that the Commission deny or defer action on the DIRECTV 15 application until either DIRECTV coordinates RB-2 with Ciel or the Commission acts on the application of SES for authority to operate SES-3 on C- and Ku-band frequencies at the 103° W.L. orbital location. Industry Canada has authorized Ciel, an affiliate of SES, to operate in the 17/24 GHz BSS frequencies at the 103° W.L. orbital location. The authorization for RB-2 is already subject to a condition that addresses the obligations of international coordination under the procedures of the International Telecommunication Union. Consequently, there is no reason to impose additional conditions regarding coordination of the RB-2 payload. Furthermore, the application of SES to operate SES-3 on C- and Ku-band frequencies has been granted. SES Americom, IBFS File No. SAT-RPL-20121228-00227 (granted Apr. 2, 2015).

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5. The operation of DIRECTV 15 and associated earth stations must comport with the applicable uplink and downlink power limits in Section 25.138 of the Commission's rules, 47 C.F.R. § 25.138, in the 18.3-18.59 GHz, 19.7-20.2 GHz, 28.35-28.6 GHz, 29.25-29.29 GHz and 29.5-30.0 GHz frequency bands. These limits cannot be exceeded unless DIRECTV coordinates any non-conforming operation with the operations of U.S.-licensed GSO space stations within 6 degrees of 102.75° W.L. Non-conforming operation must also be coordinated with respect to those operations of non-U.S.-licensed space stations within 6 degrees of 102.75° W.L involving approved communications with U.S.-licensed earth stations.

6. DIRECTV 15's operations in the 29.25-29.29 GHz frequency band must comply with Section 25.258 of the Commission's rules, 47 C.F.R. § 25.258.

7. DIRECTV's request for a waiver of Section 25.210(i)(1) of the Commission's rules, 47 C.F.R. § 25.210(i)(1), IS GRANTED. Section 25.210(i)(1) requires space station antennas used for FSS operation to provide cross-polarization isolation of at least 30 dB within the primary coverage area of the antenna.<sup>2</sup> DIRECTV states that cross-polarization is primarily an "intra-system design issue and does not affect inter-system coordination,"<sup>3</sup> and that DIRECTV 15's transmit and receive antennas (for spot and CONUS) are designed to meet a minimum cross-polarization isolation of 27 dB for communications carriers and 25 dB for telecommand. Since it plans to employ digital modulation with forward error correction coding on both polarization senses to reduce system sensitivity to cross-polarization interference, and since polarization isolation, directivity, and antenna implementation losses will be optimized to provide the best performance, DIRECTV believes that the minimum isolation of 27 dB for communications carriers and 25 dB for telecommand will avoid excessive levels of intra-system interference. Based on DIRECTV's representations, we find that it is in the public interest to waive Section 25.210(i)(1), and that this is consistent with previous Commission action.

8. DIRECTV's request for waiver of Section 25.283(c) of the Commission's rules, 47 C.F.R. § 25.283(c), for the DIRECTV 15 satellite IS GRANTED. Section 25.283(c) requires discharge of all stored energy sources when a space station is retired from service. DIRECTV 15 is an EADS Astrium E3000 series satellite, which does not completely discharge all stored energy at end of life. At the completion of the mission, upon disposal of the spacecraft, the chemical propulsion tanks will be depleted. A helium pressurant tank, however, will retain a total mass of approximately 1.23 kg of helium with a volume of approximately 180.11 cubic liters at end of life. The information submitted 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 modification of the space station at this time.

9. DIRECTV's geostationary orbit Ka-band space station at the 102.75° W.L. orbital location must be constructed, launched, and begin operations in accordance with the technical parameters and terms and conditions of this authorization by these specified time periods following the date of authorization:

- a. Execute a binding contract for construction within one year (May 20, 2016);

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<sup>2</sup> 47 C.F.R. § 25.210(i)(1).

<sup>3</sup> DIRECTV Enterprises, LLC Application for Authority to Launch and Operate DIRECTV 15 at 103° W.L., Exhibit B, IBFS File No. SAT-LOA-20140825-00094 (filed Aug. 25, 2014).

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- b. Complete the Critical Design Review within two years (May 20, 2017);
- c. Commence construction within three years (May 20, 2018);
- d. Launch and begin operations within five years (May 20, 2020); and

DIRECTV must file a bond with the Commission in the amount of \$3 million, pursuant to the procedures set forth in Public Notice, DA 03-2602, 18 FCC Rcd 16283 (2003), within 30 days of the date of this grant (June 19, 2015). Failure to meet any of these dates shall render this authorization null and void.

10. The license term for this geostationary orbit Ka-band space station, Call Sign S2930, is 15 years, and will begin to run on the date that DIRECTV certifies to the Commission that the satellite has been successfully placed into orbit and its operation fully conforms to the terms and conditions of this authorization. DIRECTV shall file this certification with the Chief, Satellite Division, International Bureau, within ten business days of the space station being put into operation.

11. DIRECTV 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.

12. 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.


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Call Sign S2930 Grant Date 05/20/15  
(or other identifier)

From see conditions Term Dates see conditions  
To: conditions

Approved: Stephen J. Duall  
Stephen J. Duall  
Chief, Satellite Policy Branch



The stamp is a red circular seal of the Federal Communications Commission. Inside the seal, it says 'FEDERAL COMMUNICATIONS COMMISSION'. Below the seal, the word 'GRANTED\*' is printed in a bold, sans-serif font. Underneath that, 'International Bureau' is printed in a smaller font. At the bottom of the stamp, the handwritten text '\*with conditions' is written in black ink.

9-16. Name of Contact Representative

<b>Name:</b>	William M. Wiltshire	<b>Phone Number:</b>	202-730-1350
<b>Company:</b>	Harris, Wiltshire & Grannis LLP	<b>Fax Number:</b>	202-730-1301
<b>Street:</b>	1919 M Street NW Suite 800	<b>E-Mail:</b>	wwiltshire@hwglaw.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20036-
<b>Attention:</b>	William M. Wiltshire	<b>Relationship:</b>	Legal Counsel

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

- a1. Earth Station
- a2. Space Station

- (N/A) b1. Application for License of New Station
- (N/A) b2. Application for Registration of New Domestic Receive-Only Station
- b3. Amendment to a Pending Application
- b4. Modification of License or Registration
- b5. Assignment of License or Registration
- b6. Transfer of Control of License or Registration
- b7. Notification of Minor Modification
- (N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
- (N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
- (N/A) b10. Other (Please specify)
- (N/A) b11. Application for Earth Station to Access a Non-U.S. satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States
- (N/A) b12. Application for Database Entry
- b13. Amendment to a Pending Database Entry Application
- b14. Modification of Database Entry

17c. 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):	
17d.  Fee Classification CWY – Space Station Amendment (Geostationary)	
18. If this filing is in reference to an existing station, enter:  (a) Call sign of station: S2930	19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:  (a) Date pending application was filed:                          (b) File number: 08/25/2014    SATLOA2014082500094

TYPE OF SERVICE

<p>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:</p> <p><input type="checkbox"/> a. Fixed Satellite</p> <p><input type="checkbox"/> b. Mobile Satellite</p> <p><input type="checkbox"/> c. Radiodetermination Satellite</p> <p><input type="checkbox"/> d. Earth Exploration Satellite</p> <p><input checked="" type="checkbox"/> e. Direct to Home Fixed Satellite</p> <p><input type="checkbox"/> f. Digital Audio Radio Service</p> <p><input type="checkbox"/> g. Other (please specify)</p>	
<p>21. STATUS: Choose the button next to the applicable status. Choose only one.</p> <p><input type="radio"/> Common Carrier    <input checked="" type="radio"/> Non-Common Carrier</p>	<p>22. If earth station applicant, check all that apply.</p> <p><input type="checkbox"/> Using U.S. licensed satellites</p> <p><input type="checkbox"/> Using Non-U.S. licensed satellites</p>
<p>23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:</p> <p><input type="radio"/> Connected to a Public Switched Network    <input type="radio"/> Not connected to a Public Switched Network    <input checked="" type="radio"/> N/A</p>	
<p>24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).</p> <p><input type="checkbox"/> a. C-Band (4/6 GHz)    <input type="checkbox"/> b. Ku-Band (12/14 GHz)</p> <p><input checked="" type="checkbox"/> c. Other (Please specify upper and lower frequencies in MHz.)</p> <p>Frequency Lower: 18300                      Frequency Upper: 30000                      (Please specify additional frequencies in an attachment)</p>	

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?

Yes  No  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.

Yes  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.

Yes  No

<p>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.</p>	<p><input type="radio"/> Yes    <input checked="" type="radio"/> No</p>
<p>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</p>	<p><input type="radio"/> Yes    <input checked="" type="radio"/> No</p>
<p>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.</p>	<p><input type="radio"/> Yes    <input checked="" type="radio"/> No</p>
<p>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.    Exhibit A</p>	

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.

Yes  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?

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

DIRECTV hereby amends its pending application for a Ka-band authorization at the nominal 103 WL orbital location to revise one aspect of the orbital debris mitigation information previously submitted, and requests a limited waiver to accommodate that revision to the extent necessary.

Narrative

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.

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.

C

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  
Romulo Pontual

—>

46. Title of Person Signing  
Executive Vice President Chief Technology 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).

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