IB2012000783



File# SAT-MOD-20120314-00042

Call Sign <u>\$2796</u> Grant Date 04/09/14

(or other identifier)

Term Dates

Approved by OMB 3060-0678

Date & Time Filed: Mar 14 2012 12:08:41:183PM

File Number: SAT-MOD-20120314-00042

\* with conditions

Approved:

Chief, Satellite Policy Branch

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD - MAIN FORM

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## **APPLICANT INFORMATION**

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

SAT-MOD-RB-2A

1-8. Legal Name of Applicant

Name:

**DIRECTV Enterprises, LLC** 

**Phone Number:** 

301-663-0053

**DBA** 

Fax Number:

240-358-0569

Name: Street:

2230 E. Imperial Hwy

E-Mail:

jwengryniuk@directv.com

CA/LAI/N340

City:

El Segundo

State:

CA

**Country:** 

**USA** 

Zipcode:

90245

Attention:

Mr Jack M Wengryniuk

# Attachment to Grant DIRECTV Enterprises, LLC IBFS File No. SAT-MOD-20120314-00042 Call Sign S2796

The application of DIRECTV Enterprises, LLC (DIRECTV), IBFS File No. SAT-MOD-20120314-00042, to modify its authorization to operate a 17/24 GHz Broadcasting-Satellite Service space station, DIRECTV RB-2A, at the 102.765° W.L. orbital location is GRANTED. DIRECTV filed the application to demonstrate compliance with the technical rules and information requirements adopted in FCC 11-93, 26 FCC Rcd 8927 (2011) (*Space Path Order*). Operations under this authorization must be in accordance with the technical specifications contained in DIRECTV's application and the Federal Communications Commission's rules not waived herein, and are subject to the following conditions:

- 1. DIRECTV's request for partial waiver of the requirement to provide transmitting antenna off-axis gain information and associated PFD calculations pursuant to Sections 25.264(a)-(d) of the Commission's rules, 47 C.F.R. § 25.264(a)-(d), is granted as conditioned. Sections 25.264(a)-(d) require each applicant for a 17/24 GHz BSS space station license to submit both predicted and also measured transmitting antenna off-axis gain information and associated power flux density (PFD) calculations based on this information to show that its proposed operations would not exceed the applicable coordination trigger at the location of any prior-filed U.S. DBS space station. Sections 25.264(a)-(d) are designed to mitigate the potential for space path interference to DBS operations. DIRECTV RB-2A was launched and began operations at the 102.765° W.L. orbital location before the Commission adopted the off-axis gain informational requirements and coordination framework. As a result, DIRECTV explains that it is unable to perform the antenna testing necessary to generate measured antenna off-axis gain information data required under Section 25.264. DIRECTV did, however, prepare an alternative showing to demonstrate the "worst-case" analysis of PFD experienced at the closest adjacent DBS location. The waiver is based on the following factors: (1) DIRECTV RB-2A authorization is of a limited nature;<sup>3</sup> (2) the nearest DBS satellites are also operated by DIRECTV under the U.S.'s ITU BSS Feeder Link Plan assignment for 101° W.L., and as a result, DIRECTV is in a position to accept the risk of potential interference from the RB-2A operations to its adjacent DBS space stations; (3) assuming a worst-case operational scenario, DIRECTV RB-2A operations do not appear to exceed the coordination trigger value for the DBS satellites operating under the BSS Feeder Link Plan assignment for 101° W.L.; and (4) the waiver is limited to this orbital location.
- 2. DIRECTV is afforded 30 days from the date of this action to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of

1

<sup>&</sup>lt;sup>1</sup> IBFS File No. SAT-LOA-20090807-00085. Policy Branch Information, Actions Taken, *Public Notice*, DA No. 09-2607, Report No. SAT-00656 (rel. Dec. 18, 2009) (construct and launch authority). IBFS File. No. SAT-LOA-20090807-00085; Policy Branch Information, Actions Taken, *Public Notice*, DA No. 10-89, Report No. SAT-00660 (rel. Jan. 15, 2010) (operational authority), *petition for reconsideration pending*, Petition for Reconsideration of Spectrum Five, LLC, filed Jan. 19, 2010.

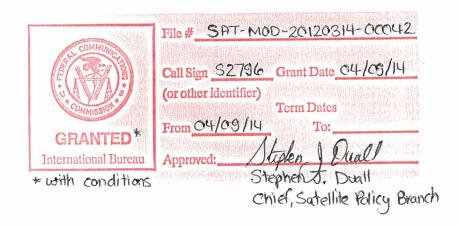
<sup>&</sup>lt;sup>2</sup> The application was placed on Public Notice as accepted for filing on June 15, 2012. Policy Branch Information, Satellite Space Applications Accepted for Filing, *Public Notice*, Report No. SAT-00874 (rel. June 15, 2012). No comments were filed.

<sup>&</sup>lt;sup>3</sup> See e.g., conditions 2 and 3 of January 15, 2010 grant of operational authority, infra note 1.

## Attachment to Grant DIRECTV Enterprises, LLC IBFS File No. SAT-MOD-20120314-00042 Call Sign S2796

the authorization as conditioned.

3. 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. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within 30 days of the date of the public notice indicating that this action was taken.



9–16. Name of Contact Representative

Name:

William M. Wiltshire

**Phone Number:** 

202-730-1350

Company:

Wiltshire & Grannis LLP

Fax Number:

202-730-1301

Street:

1200 18th Street NW

E-Mail:

wwiltshire@wiltshiregrannis.com

City:

Washington

State:

DC

Country:

USA

Zipcode:

20036-

Attention:

William M. Wiltshire

Relationship:

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
	o b14. Modification of Database Entry
17c. Is a fee submitted with this application of the property	159. If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).
17d.	
Fee Classification	

18. If this filing is in reference to an existing station, enter:	19. If this filing is an amendment to a pending apmodification please enter only the file number:	oplication enter both fields, if this filing is a
(a) Call sign of station: S2796	(a) Date pending application was filed:	(b) File number: SATLOA2009080700085

# 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)  Broadcast Satellite Service	
21. STATUS: Choose the button next to the applicable status. Choose	22. If earth station applicant, check all that apply.
only one.	Using U.S. licensed satellites
Common Carrier Non-Common Carrier	Using Non-U.S. licensed satellites
23. If applicant is providng INTERNATIONAL COMMON CARRIER sefacilities:	ervice, see instructions regarding Sec. 214 filings. Choose one. Are these
Connected to a Public Switched Network Not connected to a l	Public Switched Network N/A

24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all a	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: 17300 Frequency Upper: 25150	(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.
o 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:	
	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 & in the countries)
j — authorization to change Points of Communication (satellites & amp; countries)
k — authorization for facilities for which environmental assessment and
radiation hazard reporting is required
1 — authorization to change orbit location
m — authorization to perform fleet management
n — authorization to extend milestones
o — Other (Please specify)

## ENVIRONMENTAL POLICY

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, aeronateronautical fixed radio station services are not required to respond to Items 30–34.	autic	al en	rout	te or		
29. Is the applicant a foreign government or the representative of any foreign government?	0	Yes	•	No		
30. Is the applicant an alien or the representative of an alien?	0	Yes	0	No	•	N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	0	Yes	0	No	•	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?	0	Yes	0	No	•	N/A

O Yes No

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

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?	0	Yes	0	No	<b>⊚</b> 1	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			<u>.</u>			
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.		<b>⊚</b> `	Yes	C	<b>)</b> 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 explination of circumstances.		0`	Yes	6	<b>)</b> No	ı

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.	O Yes	<b>⊚</b> 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	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	<b>⊚</b> 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. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.	Yes	O 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	<b>⊚</b> No
42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, w coordinated or is in the process of coordinating the space station?	hat administr	ation has
43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description box, please go to the end of the form to view it in its entirety.)	on does not ap	opear in this
DIRECTV submits the Commission's new requirements for 17/24 GHz BSS systems.		
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.	O 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>⊚</b> 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.	<b>o</b> 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 appl	licable response.)	
<ul> <li>Individual</li> <li>Unincorporated Association</li> <li>Partnership</li> <li>Corporation</li> <li>Governmental Entity</li> <li>Other (please specify)</li> </ul>		
45. Name of Person Signing Romulo Pontual >	46. Title of Person Signing Executive Vice President	
(U.S. Code, Title 18, Section 10	ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT 001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (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.

#### **APPLICATION FOR MODIFICATION AND REQUEST FOR WAIVER**

DIRECTV Enterprises, LLC ("DIRECTV") has been authorized to operate a 17/24 GHz BSS space station, known as DIRECTV RB-2A, at the 102.765° W.L. orbital location. The payload corresponding to that authorization was launched on the DIRECTV 12 satellite, which began operations at the 102.765° W.L. slot on April 26, 2010 and remains there today.

More than a year after the launch of this satellite, the Commission completed a rulemaking in which it adopted a series of technical rules and informational requirements for 17/24 GHz BSS systems to mitigate space path interference from 17/24 GHz BSS transmitting antennas into the receiving antennas on DBS satellites operating in the same band at nearby locations. <sup>2</sup> Current authorization holders are required to submit a conforming modification to their authorization to submit materials necessary to comply with all of the new information requirements adopted in that proceeding. <sup>3</sup> Each of these requirements is addressed in turn below.

Sections 25.264(a) and (c). These provisions require a 17/24 GHz BSS licensee to provide predicted transmitting antenna off-axis gain information for each transmitting antenna in the 17.3-17.8 GHz frequency band, and to confirm those predictions with actual measured data. DIRECTV did not perform the off-axis gain predictions and measurements

See Grant Stamp, IBFS File No. SAT-LOA-20090807-00085 (Jan. 8, 2010).

See Establishment of Policies and Service Rules for the Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band and at the 17.7-17.8 GHz Frequency Band Internationally, and at the 24.75-25.25 GHz Frequency Band for Fixed Satellite Services Providing Feeder Links to the Broadcasting-Satellite Service and for the Satellite Services Operating Bi-directionally in the 17.3-17.8 GHz Frequency Band, 26 FCC Rcd. 8927 (2011) ("17/24 GHz BSS Second R&O").

See 17/24 GHz BSS Second R&O,  $\P$  64. The order also provides that no fee is required for modifications filed solely to comply with this requirement. See id.,  $\P$  66.

now called for under the Commission's rules prior to launch of the DIRECTV RB-2A payload. Now that the satellite is in space, there is no practicable way to provide the requested information. Accordingly, for the reasons set forth below, DIRECTV requests a waiver of Sections 25.264 (a) and (c).

Sections 25.264(b) and (d). These provisions require a 17/24 GHz BSS licensee to provide power flux density ("PFD") calculations based upon the predicted and measured off-axis antenna gain information discussed above to demonstrate that such PFD levels do not exceed the coordination trigger of -117 dBW/m²/100 kHz PFD coordination trigger with respect to any DBS satellite authorized or operating at nearby orbital locations. As noted above, DIRECTV does not have the predicted or measured off-axis gain information necessary to determine the actual PFD levels resulting from DIRECTV RB-2A's operations. Nevertheless, using a conservative assumption for the far off-axis gain value, it can be readily demonstrated that operation of this 17/24 GHz BSS payload will not exceed the PFD coordination trigger with respect to any DBS satellite.

The DIRECTV RB-2A payload on the DIRECTV 12 satellite consists of multiple transmit spot beams, all with the same peak satellite EIRP level. The worst case scenario for off-axis interference from this satellite is that involving the spot beam with the lowest peak gain, as this spot beam will have the highest power level input to the antenna. Accordingly, for purposes of the PFD calculation, DIRECTV will use the DIRECTV RB-2A spot beam with the lowest peak gain, and will also conservatively assume a maximum far off-axis gain of 0 dBi. The peak spot beam EIRP is 55.6 dBW/36 MHz. Using these figures and assumptions, the calculations for determining the worst case PFD value at nearby orbital locations is set forth in Table 1 below. As demonstrated in that table, even in a worst case

scenario, DIRECTV RB-2A complies with the coordination trigger value for any location more than 0.04° away. Since DIRECTV RB-2A is licensed to operate at 102.765° W.L. and the nearest prior-filed U.S. DBS space station is DIRECTV 4S, located at 101.2° W.L. (*i.e.*, over 1.3° away, net of station keeping allowances), the spacecraft will not trigger the PFD threshold at any relevant location.

Max EIRP from Sched S (dBW/36 MHz)	55.6
Minimum Peak TX Antenna gain from Sched S (dBi)	47.2
Max power into antenna (dBW/36 MHz)	8.4
Max power density into antenna (dBW/100 kHz)	-17.2
Max off-axis predicted antenna gain (dBi)	0
Max off-axis EIRP density (dBW/100 kHz)	-17.2
Coordination trigger value (dBW/m²/100 kHz)	-117
Req'd spreading loss to meet coord trigger (dB-m <sup>2</sup> )	99.8
Req'd distance to achieve spreading loss (km)	27.7
Geocentric orbital separation equal to 55.9 km (deg)	0.04

Table 1. Orbital Separation Required to Meet Coordination Trigger

Section 25.264(h). The orbital eccentricity value for the DIRECTV RB-2A spacecraft is approximately 0.00015, such that the maximum and minimum altitudes of each spacecraft remain within the requirements established by the Commission.<sup>4</sup> The spacecraft is maintained in a non-inclined orbit, and DIRECTV does not plan any orientation bias or change in operating orientation relative to the reference coordinate system for this spacecraft.

#### WAIVER REQUEST

To the extent necessary, DIRECTV hereby requests a waiver of Section 25.264 of the Commission's rules in light of the fact that DIRECTV RB-2A is already in orbit.

See 47 C.F.R. § 25.264(h)(2) (establishing maximum orbital eccentricity of 0.00047 for 17/24 GHz BSS satellites).

The Commission may waive its rules for good cause shown. A rule may be waived where the particular facts make strict compliance inconsistent with the public interest. In making this determination, the Commission may take into account considerations of hardship, equity, or more effective implementation of overall policy on an individual basis. Waiver of the Commission's rules is therefore appropriate if special circumstances warrant a deviation from the general rule, and such deviation would better serve the public interest than would strict adherence to the general rule. The criteria justifying a waiver are clearly present in this case.

As discussed above, DIRECTV RB-2A was launched well before the Commission had established the contours of its off-axis gain informational requirements. Now that the satellite is in orbit, there is no practical way to generate measured data required under Section 25.264(c), which is also a critical input into the PFD calculation required under Section 25.264(d). Nonetheless, as shown above, even assuming a worst-case operational scenario, DIRECTV RB-2A does not exceed the coordination trigger value for any location more than 0.04° away, and therefore would not be expected to affect any DBS satellite operating outside that very minimal spacing. DIRECTV RB-2A is located at the nominal 103° W.L. orbital location. The nearest prior-filed DBS satellites (DIRECTV 4S, 8, and 9S) are also operated by DIRECTV, at the nominal 101° W.L. orbital location. Thus, even if the orbital separation were not far more than necessary to remain under the coordination trigger,

<sup>&</sup>lt;sup>5</sup> 47 C.F.R. § 1.3; see also WAIT Radio v. FCC, 418 F.2d 1153, 1159 (D.C. Cir. 1969), cert. denied, 409 U.S. 1027 (1972).

<sup>&</sup>lt;sup>6</sup> See Northeast Cellular Tel. Co. v. FCC, 897 F.2d 1164, 1166 (D.C. Cir. 1990).

WAIT Radio, 418 F.2d at 1159; Northeast Cellular, 897 F.2d at 1166.

<sup>&</sup>lt;sup>8</sup> NetworkIP v. FCC, 548 F.3d 116, 125-28 (D.C. Cir. 2008); Northeast Cellular, 897 F.2d at 1166.

DIRECTV would be the only DBS operator potentially affected by the DIRECTV RB-2A payload's operations. DIRECTV has experienced no such interference, nor any other DBS operator reported any such interference. In these particular circumstances, granting a waiver applicable solely at this location would serve the public interest and have no material effect on the operations of any DBS satellite.

For the foregoing reasons, DIRECTV requests that its authorization for the DIRECTV RB-2A space station be modified to include the information submitted herein, and that it be granted a waiver of Section 25.264 of the Commission's rules to the extent necessary.

Respectfully submitted,

DIRECTV ENTERPRISES, LLC

DIRECTV understands that any waiver issued in this proceeding would apply only at the nominal 103° W.L. location, and that it would need to make an additional showing should it ever seek to relocate the payload to another orbital location where it could potentially affect other DBS spacecraft.

## **ENGINEERING CERTIFICATION**

The undersigned hereby certifies	to the Federal	Communications	Commission as	follows
----------------------------------	----------------	----------------	---------------	---------

- (i) I am the technically qualified person responsible for the engineering information contained in the foregoing Application,
- (ii) I am familiar with Part 25 of the Commission's Rules, and
- (iii) I have either prepared or reviewed the engineering information contained in the foregoing Application, and it is complete and accurate to the best of my knowledge and belief.

Signed:	
/s/	
Jack Wengryniuk	
March 13, 2012	
Date	