

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
O3b STA to operate ESV's at Melbourne (June 2013)

I. Applicant

Name: O3b Limited **Phone Number:** 202 478 7183
DBA Name: **Fax Number:**
Street: 1129 20th St., NW, Suite 1000 **E-Mail:** joslyn.read@o3bnetworks.com
City: Washington **State:**
Country: USA **Zipcode:**
Attention: Ms Joslyn Read

30 days

"With Conditions"

File # SES-STA-20130620-00515



Call Sign N/A Grant Date 08/12/2013
(or other identifier)

Term Dates
From 08/13/2013 To: 09/14/2013

Approved: Paul E. Blay

-115 dB(W/m ² ÷MHz)	for 0° ≤ δ < 5°
-115 +(0.5)(δ-5) dB(W/m ² ÷MHz)	for 5° ≤ δ < 25°
-105 dB(W/m ² ÷MHz)	for 25° ≤ δ < 90°

δ: is the angle of arrival above the horizontal plane

- 8) O3b may not receive transmission from O3b's NGSO FSS system in the 18.8-19.3 GHz frequency band (space-to-Earth) until O3b has completed coordination of its NGSO FSS system with all Federal FSS systems in the 18.8-19.3 frequency band under 47 C.F.R. § 2.106, Footnote US334.
- 9) O3b satellite transmissions must be conducted in accordance with the coordination agreement between O3b and U.S government systems signed on January 17, 2013 with DOD.
- 10) This STA is limited to testing operations only. O3b may not provide any commercial service under this STA.
- 11) Any action taken or expense incurred as a result of operations pursuant to this STA is solely at O3b's risk.
- 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.


30 days *"with conditions"*

File# SES-STA-20130620-00515

Call Sign N/A Grant Date 08/12/2013
(or other identifier)

Term Dates
From 08/13/2013 To: 09/11/2013

Approved: *Paul E. Glass*



O3b Limited
SES-STA-20130620-00515
Special Temporary Authority

O3b Limited (O3b) is granted Special Temporary Authority (STA) for 30 days, starting August 13, 2013, to operate up to three 2.2 meter antennas, located at a facility in Melbourne, Florida, to communicate with O3b's in-orbit non-geostationary orbit (NGSO) fixed-satellite service (FSS) space station system using the 18.8-19.3 GHz (space-to-Earth) and 28.6-29.1 GHz (Earth-to-space) frequency bands. This grant of STA is subject to the following conditions:

- 1) The antennas will operate from a fixed pedestal located at latitude 28° 5' 24"N, longitude 80° 38' 20.4"W.
- 2) Operations under this STA shall not cause harmful interference to, and shall not claim protection from, interference caused to it by any other lawfully operating station and it shall cease transmission(s) immediately upon notice of such interference.
- 3) Grant of this STA is without prejudice to any determination that the Commission may make regarding other pending applications, e.g., IBFS File Nos. SES-LIC-20130528-00455, SES-LIC-20130618-00516, and SES-STA-20130617-00497.
- 4) Transmitter(s) must be turned off during antenna maintenance to ensure compliance with the FCC-specified safety guidelines for human exposure to radiofrequency radiation in the region between the antenna feed and the reflector. Appropriate measures must also be taken to restrict access to other regions in which the antennas' power flux-density levels exceed the specified guidelines.
- 5) Transmissions authorized herein must comply with coordination agreements reached between the United Kingdom and other Administrations, including all coordination agreements reached between the United Kingdom and the United States.
- 6) The earth station EIRP density in the 28.6-29.1 GHz frequency band shall not exceed 36.46 dBW/40 kHz for emission designator 5M12G7D and 27.2 dBW/40 kHz for emission designator 216MG7D.
- 7) The power flux-density at the Earth's surface produced by emissions from O3b's NGSO FSS system transmitting to the 2.2 meter antennas operating pursuant to this STA for all conditions and for all methods of modulation shall not exceed the following values under 47 C.F.R. § 25.208(e) and Article 21 of the ITU Radio Regulations.

O3b Limited
3rd Floor Anley House,
Anley Street
St Helier, Jersey JE2 3QE,
Channel Islands
T +44 (0) 1534 865 000
F +44 (0) 1534 862 301
www.o3bnetworks.com



SES-STA-20130620-00515

IB2013001332

O3B LIMITED

11 July 2013

BY ELECTRONIC FILING

Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Room TW-A325
Washington, DC 20554

Re: O3b Limited
Request for Special Temporary Authority
File No. SES-STA-20130620-00515

Dear Madame Secretary:

O3b Limited ("O3b") hereby revises the information provided in the above-referenced application for earth station Special Temporary Authority ("STA") submitted on June 20, 2013 as follows:

- O3b's test site has been moved to a different location at the same property that will give O3b's employees improved accessibility. The following minor changes, therefore, need to be made to the test site coordinates:
 - O3b changes the coordinates of Item #8 (Latitude) to **28° 5' 24"N**.
 - O3b changes the coordinates of Item #10 (Longitude) to **80° 38' 20.4"W**.
- At the end of the first paragraph of the "Test Details" section on page 1 of Attachment 1, O3b inserts the following language:
 - "The ESV units will be mounted on a fixed pedestal. Although the pointing angle of the ESV units will change as O3b's in-orbit satellites are tracked, the pedestal will remain stationary during testing."

Please let us know if you have any questions.

Respectfully submitted,

A handwritten signature in black ink that reads "Joslyn Read".

Joslyn Read
Vice-President, Regulatory Affairs
E: Joslyn.Read@o3bnetworks.com
T: +1 202.478.7183
M: +1 202.352.5985

cc: Paul Blais (by email)

O3b Limited
3rd Floor Anley House,
Anley Street
St Helier, Jersey JE2 3QE,
Channel Islands
T +44 (0) 1534 865 000
F +44 (0) 1534 862 301
www.o3bnetworks.com



SES-STA-20130620-00515 IB2013001332
O3B LIMITED

August 7, 2013

BY ELECTRONIC FILING

Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Room TW-A325
Washington, DC 20554

Re: O3b Limited
Request for Special Temporary Authority
File No. SES-STA-20130620-00515

Dear Madame Secretary:

O3b Limited ("O3b") hereby further revises the information provided in the above-referenced request for Special Temporary Authority ("STA") to conduct tests on up to three 2.2m earth stations on vessels ("ESVs"). O3b's STA request was submitted on June 20, 2013, and was revised on July 11, 2013. The further revisions are as follows:

- O3b seeks special temporary authority for a 30-day period, rather than the 60-day period that it initially specified.
- O3b clarifies that there is no license application underlying its STA request. O3b's STA request is independent of its separately-filed application for a license to operate ESVs (File No. SES-LIC-20130528-00455), and O3b acknowledges that action on its STA request is without prejudice to Commission action on its ESV license application.

Please let us know if you have any questions.

Respectfully submitted,

A handwritten signature in black ink that reads 'Joslyn Read'.

Joslyn Read
Vice-President, Regulatory Affairs
E: Joslyn.Read@o3bnetworks.com
T: +1 202.478.7183
M: +1 202.352.5985

cc: Andrea Kelly, FCC (via email)
Paul Blais, FCC (via email)

Request for Special Temporary Authority

O3b Limited ("O3b"), pursuant to Section 25.120 of the Commission's rules,¹ hereby requests special temporary authority ("STA"), covering the 60-day period between August 9, 2013, and October 8, 2013, to conduct tests at a facility in Melbourne, Florida, of up to three 2.2m earth stations on vessels ("ESVs") antennas. These tests will be conducted with the O3b medium Earth orbit satellites, the first batch of which is scheduled to be launched on June 24, 2013.

Test Details. O3b previously submitted an application seeking a blanket license permitting it to operate up to one hundred 2.2m and one hundred 1.2m ESVs on U.S.-flagged ships that will communicate with O3b's system (the "Blanket ESV Application").² By way of the instant STA request, O3b proposes to test, on land, up to three of the 2.2m ESV units for which it has separately sought regular authority.

The tests will enable O3b to establish performance standards and operational requirements for the ESVs. The tests will be conducted in accordance with the technical parameters for 2.2m ESV units that are specified in the Blanket ESV Application. A copy of the Schedule B from the Blanket ESV Application is attached to this filing.³ During the tests, the ESV units will be pointed at elevation angles ranging from 10 degrees to 43 degrees.

Public Interest Showing. O3b's STA request is supported by good cause, because the proposed tests will facilitate the introduction of O3b's competitive ESV service. The Commission has recognized the many benefits associated with ESVs. Authorizing ESVs, it has found, "advances the Commission's goals and objectives for market-driven deployment of broadband technologies," which "are becoming a fundamental component of modern communications."⁴ The Commission also determined that the "maritime market for broadband via satellite-based communications continues to expand," and that authorizing ESVs makes it possible to "deploy increasingly innovative broadband services ... to businesses and consumers on the high seas, coastlines, and inland waterways."⁵ Grant of O3b's STA request will advance these important objectives.

Interference Analysis. O3b will conduct its ESV tests in the 18.8-19.3 GHz and 28.6-29.1 GHz bands with the soon-to-be launched O3b satellites. Under the

¹ 47 C.F.R. § 25.120.

² See FCC File No. SES-LIC-20130528-00455 (filed May 28, 2013).

³ Only that information in the Schedule B that addresses the 2.2m ESV antennas is applicable to this STA request.

⁴ *In the Matter of Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925-6425 MHz/3700-4200 MHz Bands and 14.0-14.5 GHz/11.7-12.2 GHz Bands*, 20 FCC Rcd 674, ¶ 4 (2004) ("ESV R&O").

⁵ *Id.*

Commission's Ka-band frequency plan, these bands may be used on a primary basis by licensed NGSO FSS systems.⁶ O3b recognizes, however, that operations under the STA for the ESV tests will be on a secondary, non-harmful interference basis. As demonstrated below, the ESV tests will provide the requisite protection to terrestrial stations and geostationary orbit ("GSO") FSS stations operating in these bands.

1. Avoidance of interference to GSO FSS systems. The proposed testing will not cause any interference into, or require protection from, any co-frequency GSO satellites. As previously shown, there is an inherent angular separation between the O3b and GSO arcs from the perspective of O3b earth stations located away from the equator. The O3b ESV test antennas at the Melbourne, Florida facility will be located above 28 degrees latitude, which is further north than the Hawaii gateway previously approved by the Commission.⁷ This means that the angular separation between the O3b and GSO arcs from the O3b ESV test location will be greater than the 7 degree separation accepted by the Commission when it approved O3b's Hawaii gateway. In addition, and as discussed in the Technical Statement that accompanied O3b's Blanket ESV Application, the uplink and downlink power density levels of O3b's ESVs will be within the limits specified in Section 25.138 of the rules for blanket licensing of GSO FSS earth stations.⁸ These factors ensure that GSO FSS systems will be adequately protected.

2. Avoidance of interference to or from Fixed Service (i.e., terrestrial) stations.

28.6-29.1 GHz band (ESV uplink frequencies). There is no allocation in the Commission's Ka-band Band Plan for Fixed Service stations operating in the 28.6-29.1 GHz band in the United States.⁹

18.8-19.3 GHz band (ESV downlink frequencies). Fixed Service stations operating in the 18.8-19.3 GHz band are no longer co-primary with FSS users in this band.¹⁰ However, because the tests O3b proposes in this STA request will be conducted on a secondary basis, O3b agrees to accept any interference that its ESVs may receive from

⁶ See *In the Matter of Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, 11 FCC Rcd. 19005, ¶¶59-62 and 79 (1996). See also *In the Matter of Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use*, 15 FCC Rcd 13430, ¶ 28 (2000).

⁷ See FCC File No. SES-LIC-20100723-00952 (granted Sep. 25, 2012).

⁸ See *id.*, Section A.6, Annex 1, and Annex 2.

⁹ See *In the Matter of Verizon Washington D.C., Application for Renewal of License for Common Carrier Fixed Point to Point Microwave Station KGC79*, 26 FCC Rcd 13511, 13516 (WTB 2011).

¹⁰ See 47 C.F.R. § 101.85(b)(2).

18.8-19.3 GHz band Fixed Service stations. As stated in O3b's Blanket ESV Application, O3b will protect 18.8-19.3 GHz band Fixed Service stations by complying with the space station PFD limits specified in Section 25.208 of the rules.

Conclusion

Accordingly, and for good cause shown, O3b respectfully requests that its STA be granted.

2. Contact

Name: Joseph A. Godles **Phone Number:** 202-429-4900
Company: Goldberg Godles Wiener & Wright LLP **Fax Number:** 202-429-4912
Street: 1229 19th St., NW **E-Mail:** jgodles@g2w2.com
City: Washington **State:** DC
Country: USA **Zipcode:** 20036 -2413
Attention: **Relationship:** Legal Counsel

(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)

3. Reference File Number SESLIC2013052800455 or Submission ID

4a. Is a fee submitted with this application?

If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).

Governmental Entity Noncommercial educational licensee

Other (please explain):

4b. Fee Classification CGX – Fixed Satellite Transmit/Receive Earth Station

5. Type Request

Use Prior to Grant

Change Station Location

Other

6. Requested Use Prior Date

08/09/2013

7. City/Melbourne	8. Latitude (dd mm ss.s h) 28 5 15.5 N
9. State FL	10. Longitude (dd mm ss.s h) 80 38 10.2 W
11. Please supply any need attachments. Attachment 1: STA Attachment 2: Attachment 3:	
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.) Applicant herein seeks Special Temporary Authority to conduct tests at a facility in Melbourne, Florida, of up to three 2.2m earth stations on vessels ('ESVs') antennas.	
13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; party to the application; for these purposes. Yes <input checked="" type="radio"/> No <input type="radio"/>	
14. Name of Person Signing Joslyn Read	15. Title of Person Signing Vice-President, Regulatory Affairs
WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).	

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERM, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PRA@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.