

S3013 SAT-PDR-20170411-00063 IB2017000975
Spectrum Five LLC
BSSNET2A-95W



File # SAT-PDR-20170411-00063
Call Sign S3013 Grant Date 07/13/17
(or other identifier)
From see conditions Term Dates see conditions
To: conditions
Approved: *Stephen J. Duall*

Approved by OMB
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Stephen J. Duall
Stephen J. Duall
Chief, Satellite Policy Branch

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| APPLICATION FOR SATELLITE SPACE STATION AUTHORIZATIONS FCC 312 MAIN FORM FOR OFFICIAL USE ONLY | FCC Use Only |
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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
Spectrum Five LLC seeks authority to provide service to the U.S. market through a Netherlands authorized satellite from the 95.15 W.L. orbital location using the 7/24 GHz Broadcasting Satellite Service band.

| | | | |
|------------------------------|--|---------------|--------------------------|
| 1-8. Legal Name of Applicant | | | |
| Name: | Spectrum Five LLC | Phone Number: | 202-293-3483 |
| DBA Name: | | Fax Number: | |
| Street: | 1050 Connecticut Ave., NW Suite 500 | E-Mail: | dwilson@spectrumfive.com |
| City: | Washington | State: | DC |
| Country: | USA | Zipcode: | 20036 |
| Attention: | Mr. David Wilson | | |

ATTACHMENT TO GRANT
Spectrum Five LLC
IBFS File No. SAT-PDR-20170411-00063

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|---|---|---|
| IBFS File No(s): | SAT-PDR-20170411-00063 ¹ | <p>GRANTED – With Conditions</p>  <p>International Bureau Satellite Division</p> |
| Licensee/Grantee: | Spectrum Five LLC | |
| Call Sign: | S3013 | |
| Satellite Name: | BSSNET2A-95W | |
| Orbital Location: (required station-keeping tolerance) | 95.15° W.L. (+/- 0.05 degrees east/west) | |
| Administration: | Netherlands | |
| Nature of Service: | 17/24 GHz Broadcast Satellite Service | |
| Scope of Grant: | Authority to access the U.S. market to provide Direct-to-Home service using the 17/24 GHz BSS bands. | |
| Service Area(s): | CONUS, Alaska, Hawaii, and Puerto Rico | |
| Frequencies: | 17.3-17.7 GHz (space-to-Earth) 24.75-25.15 GHz (Earth-to-space) Telemetry, tracking, and command operations at the center frequencies of 17.303 and 17.306 GHz (space-to-Earth), 24.753 GHz and 24.755 GHz (Earth-to-space) | |
| <p>Operations under this grant must comport with the legal and technical specifications set forth by the applicant or petitioner and with Federal Communication Commission’s rules not waived herein. This grant is also subject to the following conditions:</p> <ol style="list-style-type: none"> As proposed in its application, Spectrum Five may access the U.S. market using its BSSNET2A-95W space station at the 95.15° W.L. orbital location up to power flux density (pfd) levels that are reduced from those specified in 47 CFR § 25.208(w) in accordance with the following calculation methodology: For a given location on the surface of the Earth at which the required pfd reduction value needs to be determined, calculate the topocentric angular separation ‘ϕ’ of the 95° W and 99° W.L. geostationary orbital locations, and the corresponding off-axis gain GCO1(ϕ) of the antenna specified in Section 25.224(a)(1) of the Commission's rules at that angular separation. For the same location on the surface of the Earth, also calculate the topocentric angular separation of the 95.15° W.L. and 99° W.L. geostationary orbital locations, and the gain of the antenna ‘GCO2(ϕ)’ specified in Section 25.224(a)(1) of the Commission's rules at that angular separation. Then, perform the subtraction GCO2(ϕ) - GCO1(ϕ). The result is the required reduction in pfd from the value specified in Section 25.208(w). The pfd levels of Spectrum Five's space station transmissions must not exceed the lower of these calculated levels or the levels stated in its application, and must meet the reduced pfd limits under all atmospheric conditions. Communications between U.S.-licensed earth stations and the BSSNET2A-95W space station must comply with all existing and future space station coordination agreements reached between the Netherlands and other administrations. In the absence of a coordination agreement, such communications must comply with applicable provisions of the ITU Radio Regulations as the Commission cannot guarantee the success of the required coordinations. Spectrum Five must maintain the BSSNET2A-95W space station within an east/west longitudinal station-keeping tolerance of \pm 0.05 degrees of the 95.15° W.L. orbital location. When designing its system, Spectrum Five is reminded to take into consideration the geographic service requirements of Section 25.225 of the Commission's rules. 47 CFR § 25.225. Spectrum Five must provide predicted and measured off-axis gain information for each antenna that will transmit in the 17.3-17.7 GHz frequency band, and associated power flux density (pfd) calculations, | | |

¹ We have changed Spectrum Five’s IBFS File number from a PPL (Petition for Permitted List) to PDR (Petition for Declaratory Ruling) consistent with section 25.137.

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in accordance with Section 25.264(a)-(d) of the Commission's rules, 47 CFR § 25.264(a)-(d).

6. This grant of U.S. market access is subject to the following requirements:
- a. Spectrum Five must post a surety bond in satisfaction of 47 CFR §§ 25.165(a)(2) & (b) no later than 30 days after grant (August 12, 2017) and thereafter maintain on file a surety bond requiring payment in the event of a default in an amount, at minimum, determined according to the formula set forth in 47 CFR § 25.165(a)(2); and
 - b. Spectrum Five must launch the space station, position it in its assigned orbital location, and operate it in accordance with the station authorization no later than 5 years after grant (July 13, 2022), 47 CFR § 25.164(a).

This grant of U.S. market access will be null and void automatically, without further Commission action if Spectrum Five fails to comply with any of these requirements. Failure to comply with the milestone requirement of 47 CFR § 25.164(a) will also result in forfeiture of Spectrum Five's surety bond. By 5 years plus 15 days after grant (July 28, 2022), Spectrum Five must either demonstrate compliance with its milestone requirement or notify the Commission in writing that the requirement was not met. 47 CFR § 25.164(f).

- 7. This grant of market access will terminate in the event that the BSSNET2A-95W space station is relocated from the 95.15° W.L. orbital location or ceases to operate.
- 8. This grant will become effective and remain effective to the extent that launch and space operations are authorized by the Radiocommunications Agency Netherlands under the Netherlands Space Activities Law. Spectrum Five must file evidence in the public record of the proceeding demonstrating grant of any such authorizations within five business days of action by the Radiocommunications Agency of the Netherlands. In addition, Spectrum Five is requested to submit written confirmation that appropriate registration documents for BSSNET2A-95W have been filed with the United Nations Office of Outer Space Affairs, within 10 days after filing, or to report the status of document preparation not later than six months following launch.
- 9. This grant of market access and all conditions contained herein are subject to the outcome of the Commission's rulemaking in IB Docket No. 06-123 and any requirements subsequently adopted therein.

Licensee/grantee is afforded thirty (30) days from the date of release of this action to decline the grant as conditioned. Failure to respond within this period will constitute formal acceptance of the grant as conditioned.

This action is taken pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 CFR § 0.261, and is effective upon release.

Station licenses are subject to the conditions specified in Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(h).

| | | |
|---------------------|-----------------------------|---------------------------|
| Action Date: | July 13, 2017 | |
| Term Dates | From: see conditions | To: see conditions |

ATTACHMENT TO GRANT
Spectrum Five LLC
IBFS File No. SAT-PDR-20170411-00063

Approved:



Stephen J. Duall
Chief, Satellite Policy Branch

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|--------------------------------------|-------------------|---------------|--------------------------|
| 9-16. Name of Contact Representative | | | |
| Name: | Spectrum Five LLC | Phone Number: | 202-293-3483 |
| Company: | | Fax Number: | |
| Street: | 1776 K Street, NW | E-Mail: | dwilson@spectrumfive.com |
| | Suite 200 | | |
| City: | Washington | State: | DC |
| Country: | USA | Zipcode: | 20006 - |
| Attention: | David Wilson | Relationship: | Other |

CLASSIFICATION OF FILING

| | |
|---|--|
| <p>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.</p> <p>a.</p> <p>(N/A) a1. Earth Station</p> <p><input checked="" type="radio"/> a2. Space Station</p> | <p>b.</p> <p><input checked="" type="radio"/> b1. Application for License of New Station</p> <p>(N/A) b2. Application for Registration of New Domestic Receive-Only Station</p> <p>(N/A) b3. Amendment to a Pending Application</p> <p>(N/A) b4. Modification of License or Registration</p> <p>(N/A) b5. Assignment of License or Registration</p> <p>(N/A) b6. Transfer of Control of License or Registration</p> <p>(N/A) b7. Notification of Minor Modification</p> <p>(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite</p> <p><input type="radio"/> b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States</p> <p><input type="radio"/> b10. Replacement Satellite Application – no new frequency bands</p> <p><input type="radio"/> b11. Replacement Satellite Application – new frequency bands (Not eligible for streamlined processing)</p> <p><input checked="" type="radio"/> b12. Petition for Declaratory Ruling to be Added to the Permitted List</p> <p>(N/A) b13. Other (Please specify)</p> |
|---|--|

17c. 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): No fee; petition for declaratory ruling

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:

Not Applicable

(b) File number of pending application:

Not Applicable

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 type="checkbox"/> e. Direct to Home Fixed Satellite</p> <p><input type="checkbox"/> f. Digital Audio Radio Service</p> <p><input checked="" type="checkbox"/> g. Other (please specify) 17/24 GHz BSS</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>Not Applicable</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: 17300 Frequency Upper: 25150 (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.

- (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 apply.) Not Applicable

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

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? Yes No
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 explanation of circumstances. Yes No
Question 36

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. 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 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 exhibit, an explanation of the circumstances. 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. Question 40

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? Netherlands

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.)

Spectrum Five LLC seeks authority to provide service to the U.S. market through a Netherlands-authorized satellite from the 95.15 W.L. orbital location using the 7/24 GHz Broadcasting-Satellite Service band.

Tech 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

Off-Axis Performance

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.

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.

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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.