Approved by OMB 3060–0678

Date & Time Filed: Aug 3 2017 5:39:11:086PM File Number: SES–LIC–INTR2017–02156 Callsign/Satellite ID:

### APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu: HNS 95W Bismarck ND

| 1–8. Legal Name of Ap | plicant                |               |                              |
|-----------------------|------------------------|---------------|------------------------------|
| Name:                 | HNS License Sub, LLC   | Phone Number: | 301-428-5893                 |
| DBA<br>Name:          |                        | Fax Number:   | 301-428-2818                 |
| Street:               | 11717 Exploration Lane | E–Mail:       | jennifer.manner@echostar.com |
| City:                 | Germantown             | State:        | MD                           |
| <b>Country:</b>       | USA                    | Zipcode:      | 20876 –                      |
| Attention:            | Jennifer A. Manner     |               |                              |

| Name:      | Jennifer A. Manner          | Phone Number:        | 301-428-5893 |
|------------|-----------------------------|----------------------|--------------|
| Company:   | Hughes Network Systems, LLC | Fax Number:          | 301-428-2818 |
| Street:    | 11717 Exploration Lane      | E–Mail:              |              |
| City:      | Germantown                  | State:               | MD           |
| Country:   | USA                         | Zipcode:             | 20876-       |
| Attention: |                             | <b>Relationship:</b> |              |

# CLASSIFICATION OF FILING

| 17. Choose the button next to the  | b.  |  |  |  |  |
|--|---|--|--|--|--|
| classification that applies to this filing for                             | b1. Application for License of New Station  |  |  |  |  |
| both questions a. and b. Choose only one for 17a and only one for 17b.     | <ul> <li>b2. Application for Registration of New Domestic Receive–Only Station</li> <li>(N/A) b3. Amendment to a Pending Application</li> <li>(N/A) b4. Modification of License or Registration</li> </ul>  |  |  |  |  |
| a.<br>al. Earth Station<br>(N/A) a2. Space Station                         | <ul> <li>(N/A) b5. Assignment of License or Registration</li> <li>(N/A) b6. Transfer of Control of License or Registration</li> <li>(N/A) b7. Notification of Minor Modification</li> <li>(N/A) b8. Application for License of New Receive–Only Station Using Non–U.S. Licensed</li> <li>Satellite</li> </ul> |  |  |  |  |
|  | (N/A) b9. Letter of Intent to Use Non–U.S. Licensed Satellite to Provide Service in the United States b10. Other (Please specify)   |  |  |  |  |
|  | 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.<br>b12. Application for Database Entry   |  |  |  |  |
|  | (N/A) b13. Amendment to a Pending Database Entry Application<br>(N/A) b14. Modifiction of Database Entry  |  |  |  |  |
| 17c. Is a fee submitted with this applicati                                |   |  |  |  |  |
| If Yes, complete and attach FCC Form                                       | 159. If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).  |  |  |  |  |
| O Governmental Entity O Noncomme   | rcial educational licensee  |  |  |  |  |
| • Other(please explain):   |   |  |  |  |  |
| 17d.   |   |  |  |  |  |
| Fee Classification BAX – Fixed Satellite Transmit/Receive Earth<br>Station |   |  |  |  |  |

| 18. If this filing is in reference to an | 19. If this filing is an amendment to a pending application enter: |   |  |
|--|--|---|--|
| existing station, enter:                 | (a) Date pending application was filed:                            | (b) File number of pending application: |  |
| (a) Call sign of station:                |  |   |  |
| Not Applicable                           | Not Applicable   | Not Applicable                          |  |
|  |  |   |  |

## TYPE OF SERVICE

| 20. NATURE OF SERVICE: This filing is for an authorization to provide | e 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)   |  |
| 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   |
|   | Using Non–U.S. licensed satellites   |
| facilities:   | ervice, see instructions regarding Sec. 214 filings. Choose one. Are these |
| • Connected to a Public Switched Network • Not connected              | to a Public Switched Network 💿 N/A   |

|  | 24. FREQUENCY BAND(S): Place an "X" in the box(es) next to all 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.) |  |  |
| ľ  | Frequency Lower: 27500Frequency Upper: 51400   |  |

#### TYPE OF STATION

| a. Fixed Earth Station           |                         |      |  |  |
|----------------------------------|-------------------------|------|--|--|
| b. Temporary–Fixed Eart          | n Station               |      |  |  |
| c. 12/14 GHz VSAT Netw           | vork                    |      |  |  |
| d. Mobile Earth Station          |                         |      |  |  |
| -<br>N/A) e. Geostationary Space | Station                 |      |  |  |
| N/A) f. Non–Geostationary S      | pace Station            |      |  |  |
| g. Other (please specify)        |                         |      |  |  |
| PE OF EARTH STATION              | ACILITY: Choose only of | one. |  |  |

#### 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 signific environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by |                  |
|---|------------------|
| 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. §§ 1.1308 and 1.1311, as an exhibit to application. A Radiation Hazard Study must accompany all applications for new transmitting fa | o this Exhibit E |
| modifications, or major amendments.   |                  |

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30–34.

| 29. Is the applicant a foreign government or the representative of any foreign government?  | O Yes | ● No                             |
|---|-------|----------------------------------|
| 30. Is the applicant an alien or the representative of an alien?  | O Yes | O No ⊚ N/A                       |
| 31. Is the applicant a corporation organized under the laws of any foreign government?  | O Yes | O <sup>No</sup> ⊗ <sup>N/A</sup> |
| 32. Is the applicant a corporation of which more than one–fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country? | O Yes | O No ⊚ N/A                       |

33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one–fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?

34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.

#### BASIC QUALIFICATIONS

| 35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules?<br>If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.  | • Yes     | O No |
|--|-----------|------|
|  | Exhibit C |      |
| 36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explination of circumstances. | Yes       | O No |
|  | Exhibit F |      |

| 37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explination of circumstances.  | • Yes | No   |
|--|-------|------|
| 38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attemptiing 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 | ● 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.

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

O No

42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?

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.)

Applicant seeks authority to operate a gateway earth station to facilitate operation of a geostationary orbit Ka-band and Q/V-band satellite at the nominal 95 W.L. orbital location. See attachment 1.

Attachment 1

| 43a. Geographic Service Rule Certification<br>By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic<br>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>О</b> <sup>В</sup> |
| 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.

|                    | e.)   |  |    |  |  |
|--------------------|---|--|----|--|--|
|                    |   |  |    |  |  |
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|                    |   |  |    |  |  |
|                    |   |  |    |  |  |
|                    |   |  |    |  |  |
|                    | 46. Title of Pers                             | on Signing   |    |  |  |
|                    | Senior Vice President, Regulatory Affairs     |  |    |  |  |
|                    | •   |  |    |  |  |
|                    |   |  |    |  |  |
| Attachment 2:      |   | Attachment 3:  |    |  |  |
| I                  |   |  |    |  |  |
|                    |   |  |    |  |  |
| TS MADE ON THIS FO | RM ARE PUNISHA                                | BLE BY FINE AND / OR IMPRISONME  | NT |  |  |
|                    |   |  |    |  |  |
| (1), AND/(0)       | OR FORFEITURE (                               | $\cup.S. \text{ Code, 1itle 4/, Section 503}).$  |    |  |  |
|                    | TS MADE ON THIS FO<br>, Section 1001), AND/OR | Attachment 2:<br>TS MADE ON THIS FORM ARE PUNISHA<br>, Section 1001), AND/OR REVOCATION OF |    |  |  |

#### SATELLITE EARTH STATION AUTHORIZATIONS FCC Form 312 – Schedule B:(Technical and Operational Description) FOR OFFICIAL USE ONLY

| Bismarck ND                 | D5 0 11 0  |   |   |
|-----------------------------|--|---|---|
|                             | E5. Call Sign:   |   |   |
| -                           | E6. Phone<br>Number:   | 301-428-7205  |   |
| 4202 Coleman St             | E7. City:  | Bismarck  |   |
|                             | E8. County:  | Burleigh  |   |
| ND                          | E9. Zip Code   | 58503   |   |
| on:                         | CONUS  |   |   |
| 46 °51 '6.0 "N              |  |   |   |
| 100 °46 '49.1 "W            |  |   |   |
| nates are:                  | O <sup>NAD-27</sup>  | ● NAD-83  | O N/A   |
| E14. Site Elevation (AMSL): |  |   |   |
|                             |  |   |   |
|                             | Management<br>Center<br>4202 Coleman St<br>ND<br>on:<br>46 °51 '6.0 "N<br>100 °46 '49.1 "W<br>nates are: | Management Number:<br>Center<br>4202 Coleman St E7. City:<br>E8. County:<br>ND E9. Zip Code<br>on: CONUS<br>46 °51 '6.0 "N<br>100 °46 '49.1 "W<br>nates are: • NAD-27 | Management<br>CenterNumber:<br>Number:<br>Enter4202 Coleman StE7. City:Bismarck4202 Coleman StE7. City:BurleighE8. County:BurleighNDE9. Zip Code58503on:CONUS46 °51 ' 6.0 "NCONUS100 ° 46 ' 49.1 "WNAD-27< NAD-83 |

| E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide asExhibit B a technical analysis showing compliance with two-degree spacing policy. | • Yes | O <sup>No</sup>        | O <sup>N/A</sup> |
|---|-------|------------------------|------------------|
| E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non–geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?                              | • Yes | <b>O</b> <sup>No</sup> | ● N/A            |
| E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.  | • Yes | 0                      | No               |

| E18. Is frequency coordination required? If YES, attach a frequency coordination report as   |   | Yes | O No |  |
|--|---|-----|------|--|
| E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as   | 0 | Yes | ● No |  |
| E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, hav you attached a copy of a completed FCC Form 854 and or the FAA's study regarding the potential hazard of the structure to aviation?<br>FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION. | 0 | Yes | ● No |  |

Satellite Name:OTHER | OTHER | If you selected OTHER, please enter the following:

| E21. Common Name: HNS 95W                    | E22. ITU Name: USASAT–76E |  |  |  |  |  |
|--|---------------------------|--|--|--|--|--|
| E23. Orbit Location: 95.2 WL                 | E24. Country: USA         |  |  |  |  |  |
| POINTS OF COMMUNICATION (Destination Points) |                           |  |  |  |  |  |
| E25. Site Identifier:                        |                           |  |  |  |  |  |
| E26. Common Name:                            | E27. Country:             |  |  |  |  |  |

# ANTENNA

| Site ID     | E28. Antenna Id | E29. Quantity | E30.<br>Manufacturer | E31. Model | E32. Antenna<br>Size <meters></meters> | E41/42. Antenna<br>GainTransmint<br>and/or Recieve<br>(dBi at<br>GHz) |
|-------------|-----------------|---------------|----------------------|------------|--|---|
| Bismarck ND | 1               | 1             | General Dynamics     | 9.2 meter  | 9.2                                    | 70.1 dBi at 41.0  |
|             |                 |               |                      |            |  | 71.6 dBi at 48.7  |
|             |                 |               |                      |            |  | 71.9 dBi at 50.9  |
|             |                 |               |                      |            |  | 66.7 dBi at 27.75   |
|             |                 |               |                      |            |  | 66.9 dBi at 28.35   |

| Id | E33/34.<br>Diameter<br>Minor/Major<br>(meters) | (meters) | Height Above<br>Ground<br>Level<br> | Input Power at<br>antenna<br>flange<br><br>(Watts) | Maximum<br>Antenna Height<br>Above<br>Rooftop<br> | E40. Total<br>EIRP for al<br>carriers<br><br>(dBW) |
|----|--|----------|-------------------------------------|--|---|--|
|    |  |          |                                     |  | (meters)  |  |

| 1          | 0                     | 0.0/0.0                          | 10.2   |              | 591.9     |                                | 1.0         |                  | 200.0           |        | 10.2                           | 7         | 3.8  |
|------------|-----------------------|----------------------------------|--------|--------------|-----------|--------------------------------|-------------|------------------|-----------------|--------|--------------------------------|-----------|--|
| FRE        | EQUENCY               |                                  | •      |              |           |                                |             |                  |                 |        |                                |           |  |
| E28.       | Antenna Id            | E43/44.<br>Frequency Ba<br>(MHz) | nds    | E45. T/R M   | lode      | E46. Anto<br>Polarizat<br>L,R) |             | E47. E<br>Design | mission<br>ator |        | Maximum<br>P per Carrier<br>W) | ER<br>Car | D. Maximum<br>IP Density per<br>trier<br>W/4kHz) |
| 1          |                       | 40000<br>42000                   |        | R            |           | Left and H<br>Circular         | Right       | 470MC            | 37W             | 0.0    |                                | 0.0       |  |
| E<br>entir | 50. Modulatior rety.) | and Services                     | (If th | e complete d | lescripti | on does no                     | t appear ir | this box         | k, please go    | to the | end of the form                | to vi     | ew it in its                                     |
|            | M-ary PSK             | inroute                          |        |              |           |                                |             |                  |                 |        |                                |           |  |
| 1          |                       | 27500<br>28000                   |        | Т            |           | Left and H<br>Circular         | Right       | 470MC            | 37W             | 58.1   |                                | 7.1       |  |
| E<br>entir | 50. Modulatior rety.) | and Services                     | (If th | e complete d | lescripti | on does no                     | t appear ir | this box         | k, please go    | to the | end of the form                | to vi     | ew it in its                                     |
|            | M-ary PSK             | outroute                         |        |              |           |                                |             |                  |                 |        |                                |           |  |
| 1          |                       | 28100<br>28600                   |        | Т            |           | Left and I<br>Circular         | Right       | 470MC            | 37W             | 58.1   |                                | 7.1       |  |

| E50. Mo<br>entirety.) | odulation and Services ( | If the complete de | escription does not appear | in this box, please | go to the end of the | he form to view it in its |
|-----------------------|--------------------------|--------------------|----------------------------|---------------------|----------------------|---------------------------|
| M-ar                  | y PSK outroute           |                    |                            |                     |                      |                           |
| 1                     | 47200<br>50200           | Т                  | Left and Right<br>Circular | 470MG7W             | 62.7                 | 11.9                      |
| E50. Mo<br>entirety.) | odulation and Services ( | If the complete de | escription does not appear | in this box, please | go to the end of the | he form to view it in its |
| M-ar                  | y PSK outroute           |                    |                            |                     |                      |                           |
| 1                     | 50400<br>51400           | Т                  | Left and Right<br>Circular | 470MG7W             | 63.0                 | 12.2                      |
| E50. Mo<br>entirety.) | odulation and Services ( | If the complete de | escription does not appear | in this box, please | go to the end of the | he form to view it in its |
| M-ar                  | y PSK outroute           |                    |                            |                     |                      |                           |

FREQUENCY COORDINATION

| E28.<br>Antenna Id   | E51. Satellite<br>Orbit Type | E52/53.<br>Frequency<br>Limits(MHz) | E54/55.<br>Range of<br>Satellite Arc<br>E/W Limit | E56. Earth<br>Station<br>Azimuth<br>Angle<br>Eastern Limit | E57.<br>Antenna<br>Elevation<br>Angle<br>Eastern Limit | E58. Earth<br>Station<br>Azimuth<br>Angle<br>Western<br>Limit | E59.<br>Antenna<br>Elevation<br>Angle<br>Western<br>Limit |                        |
|--|------------------------------|-------------------------------------|---|--|--|---|---|------------------------|
| 1  | Geostationary                | 27500<br>28600                      | 95.2/95.2   | 172.4  | 35.9   | 172.4   | 35.9  | -65.8                  |
| REMOTE CO  | NTROL POIN                   | T LOCATION                          |   |  | ļ  |   |   |                        |
| E61. Call Sign       E65. Phone Number         NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.       E65. Phone Number |                              |                                     |   |  |  |   |   |                        |
| E62. Street A<br>11717 Explo   |                              |                                     |   | <b>I</b>   |  |   |   |                        |
| E63. City<br>Germantowr  | 1                            |                                     | E67. County<br>Montgomery                         |  |  | E64/68.<br>State/Country<br>MD/ US.                           | A   | E66. Zip Code<br>20876 |

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