Date & Time Filed: May 4 2020 8:34:24:586PM File Number: SES-LIC-INTR2020-01079

Callsign/Satellite ID:

# APPLICATION FOR EARTH STATION AUTHORIZATIONS FCC 312 MAIN FORM FOR OFFICIAL USE ONLY FOR OFFICIAL USE ONLY

#### APPLICANT INFORMATION

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

License for a 0.68 meter Ku-band transmit/receive ESIM that will support the applicants client base and their Aeronautical operations.

| 1–8. Legal Name of | Applicant                                  |               |                       |
|--------------------|--|---------------|-----------------------|
| Name:              | General Atomics Aeronautical Systems, Inc. | Phone Number: | 858-312-2810          |
| DBA<br>Name:       |  | Fax Number:   | 858-312-2920          |
| Street:            | 14200 Kirhkam Way                          | E-Mail:       | erica.emel@ga-asi.com |
| City:              | Poway                                      | State:        | CA                    |
| Country            | y: USA                                     | Zipcode:      | 92064 –               |
| Attentio           | on: Erica Emel                             |               |                       |
|                    |  |               |                       |

| ame of Contact  | Representative |               |     |
|-----------------|----------------|---------------|-----|
| Name:           | N/A            | Phone Number: | N/A |
| Company:        | N/A            | Fax Number:   | N/A |
| Street:         | N/A            | E–Mail:       | N/A |
| City:           | N/A            | State:        |     |
| <b>Country:</b> | USA            | Zipcode:      | _   |
| Attention:      |                | Relationship: |     |

### **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       | b2. Application for Registration of New Domestic Receive–Only Station                           |
| for 17a and only one for 17b.                  | (N/A) b3. Amendment to a Pending Application  |
|  | (N/A) b4. Modification of License or Registration   |
| a.  a1. Earth Station                          | (N/A) b5. Assignment of License or Registration   |
| <del>-</del>                                   | (N/A) b6. Transfer of Control of License or Registration  |
| (N/A) a2. Space Station                        | (N/A) 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  |
|  | o 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.                  |
|  | o b12. Application for Database Entry   |
|  | (N/A) b13. Amendment to a Pending Database Entry Application                                    |
|  | (N/A) b14. Modifiction of Database Entry  |
| 17c. Is a fee submitted with this application  | on?   |
| 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 Noncomme                   | ercial educational licensee   |
| Other(please explain):                         |   |
| 17d.   |   |
|  |   |
| Fee Classification BGB – Mobile Satellite      | Earth Stations Blanket  |
| Authorization                                  |   |
|  |   |

| 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:  (b) File number of pending application:  Not Applicable  Not Applicable |
|--|
|--|

| 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)  |  |
| 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   |
| O Common Carrier Non–Common Carrier                                      | Using Non–U.S. licensed satellites   |
| 23. If applicant is providing INTERNATIONAL COMMON CARRIER sefacilities: | ervice, see instructions regarding Sec. 214 filings. Choose one. Are these |
| O Connected to a Public Switched Network Not connected to                | o a Public Switched Network  |

| 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.)   |
| Frequency Lower: Frequency Upper:  |
|  |
| TYPE OF STATION  |
| 25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.        |
| a. Fixed Earth Station   |
| b. Temporary–Fixed Earth Station   |
| c. 12/14 GHz VSAT Network  |
| d. Mobile Earth Station  |
| (N/A) e. Geostationary Space Station   |
| (N/A) f. Non–Geostationary Space Station   |
| og. Other (please specify)   |
|  |
| 26. TYPE OF EARTH STATION FACILITY: Choose only one.   |
| Transmit/Receive Transmit-Only Receive-Only 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.) |
|  |
| 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. | C        | Yes          | <b>⊚</b> No             | D.  |
|---|----------|--------------|-------------------------|-----|
| ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aerona aeronautical fixed radio station services are not required to respond to Items 30–34.   | utical e | n route      | or                      |     |
| 29. Is the applicant a foreign government or the representative of any foreign government?  | O Yes    | s <b>⊚</b> N | 0                       |     |
| 30. Is the applicant an alien or the representative of an alien?  | O Yes    | 6 <b>6</b> N | o <b>o</b> N            | J/A |
| 31. Is the applicant a corporation organized under the laws of any foreign government?  | O Yes    | s <b>⊚</b> N | о <b>о</b> <sup>N</sup> | J/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?   | O Yes    | 6 N          | о <b>о</b> N            | I/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?       | O Yes ● N    | To O N/A |
|--|--------------|----------|
| 34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.  |              |          |
| BASIC QUALIFICATIONS   |              |          |
| 35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.   | <b>○</b> Yes | No       |
| 36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explination of circumstances. | <b>○</b> Yes | No       |

| 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 | <b>⊚</b> 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, we coordinated or is in the process of coordinating the space station?  | hat administi | ration has   |
| 43. Description. (Summarize the nature of the application and the services to be provided). (If the context appear in this box, please go to the end of the form to view it in its entirety.)  | omplete desc  | ription does |
| New license to operate 0.68 meter Ku-band transmit/receive fixed satellite en in motion.  Technical Exhibits   | arth stat     | cion         |

| 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.   | <b>●</b> 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.   | O 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.

| Individual   |               |   |  |
|--|---------------|---|--|
| <ul> <li>Unincorporated Association</li> </ul>                           | ı             |   |  |
| Partnership  |               |   |  |
| Corporation  |               |   |  |
| Governmental Entity  |               |   |  |
| Other (please specify)   |               |   |  |
| 45. Name of Person Signing Erica Emel  47. Please supply any need attack |               | Person Signing al Contracts and Licensing |  |
| Attachment 1:  | Attachment 2: | Attachment 3:                             |  |
|  |               |   |  |
|  |               |   |  |

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

Location of Earth Station Site

E1: Site Identifier: YPG E5. Call Sign: N/A

E6. Phone E2: Contact Name Flightline 661-478-4584

> Operations Number:

Manager

E3. Street: Laguna Army E7. City: Yuma

Airfield

E8. County: Yuma

E4. State AR E9. Zip Code 85365

E10. Area of Operation: Yuma Proving Grounds

E11. Latitude: 0 °0 '0.0 "

E12. Longitude: 0 °0 '0.0 "

E13. Lat/Lon Coordinates are: NAD-27 O NAD-83 **●** N/A

E14. Site Elevation (AMSL): 0.0 meters

| 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 as a technical analysis showing compliance with two–degree spacing policy. | <b>⊗</b> Ye | es    | O No | O <sup>N</sup> | //A |
|--|-------------|-------|------|----------------|-----|
| 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?                     | <b>⊘</b> Ye | es    | O No | O <sup>N</sup> | /A  |
| E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.   | 0 Y         | Zes . | •    | No             |     |
| E18. Is frequency coordination required? If YES, attach a frequency coordination report as   | O Y         | Zes . | •    | No             |     |
| E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as   | O Y         | Zes . | •    | , No           |     |
| E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have 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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.                                   | 1           | es.   | •    | No No          |     |
| POINTS OF COMMUNICATION  |             |       |      |                |     |
| Satellite Name: PERMITTED LIST   If you selected OTHER, please enter the following:  |             |       |      |                |     |

| E21. Common Name:                            | E22. ITU Name: |
|--|----------------|
| E23. Orbit Location:                         | E24. Country:  |
| 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 GainTransmint and/or Recieve (dBi atGHz) |
|---------|-----------------|---------------|-------------------------------------|------------|--|--|
| YPG     | M17             | 2             | General Dynamics<br>Mission Systems | M17–27A    | 0.68                                   | 37.75 dBi at 12.75                                       |
|         |                 |               |                                     |            |  | 38.81 dBi at 14.50                                       |

| Id  | Diameter  | E35. Above<br>Ground<br>Level<br><br>(meters) | E36. Above Sea<br>Level<br><br>(meters) |     | Input Power at antenna flange<br> | Maximum<br>Antenna Height | E40. Total<br>EIRP for al<br>carriers<br><br>(dBW) |
|-----|-----------|---|---|-----|-----------------------------------|---------------------------|--|
| M17 | 0.68/0.68 | 10668.0                                       | 10585.0                                 | 0.0 | 30.0                              | 0.0                       | 53.57  |

# FREQUENCY

| E43/44.         | E45. T/R Mode   | E46. Antenna          | E47. Emission                     | E48. Maximum                                 | E49. Maximum   |
|-----------------|-----------------|-----------------------|-----------------------------------|--|--|
| Frequency Bands |                 | Polarization(H,V,     | Designator                        | EIRP per Carrier                             | ERIP Density per   |
| (MHz)           |                 | <b>L</b> , <b>R</b> ) |                                   | (dBW)  | Carrier  |
|                 |                 |                       |                                   |  | (dBW/4kHz)   |
|                 | Frequency Bands | Frequency Bands       | Frequency Bands Polarization(H,V, | Frequency Bands Polarization(H,V, Designator | Frequency Bands   Polarization(H,V, Designator L,R)   EIRP per Carrier (dBW) |

| M17 | 11700 | R | Horizontal and | 20M0G2D | 0.0 | 0.0 |
|-----|-------|---|----------------|---------|-----|-----|
|     | 12200 |   | Vertical       |         |     |     |

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Digital Data, various FEC, data rates, and modulations

| M17 | 14000 | T | Horizontal and | 20M0G2D | 53.57 | 24.7 |
|-----|-------|---|----------------|---------|-------|------|
|     | 14500 |   | Vertical       |         |       |      |

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Digital Data, various FEC, data rates, and modulations

### FREQUENCY COORDINATION

| E28.<br>Antenna Id | E51. Satellite<br>Orbit Type | Frequency<br>Limits(MHz) | Range of<br>Satellite Arc<br>E/W Limit | Station<br>Azimuth<br>Angle |     | Station<br>Azimuth<br>Angle | Antenna<br>Elevation<br>Angle<br>Western | E60.<br>Maximum<br>EIRP Density<br>toward the<br>Horizon<br>(dBW/4kHz) |
|--------------------|------------------------------|--------------------------|--|-----------------------------|-----|-----------------------------|--|--|
| M17                | Geostationary                | 14000<br>14500           | 0.0/ 0.0                               | 0.0                         | 0.0 | 90.0                        | 90.0                                     | 24.7   |

REMOTE CONTROL POINT LOCATION

| E61. Call Sign  |             | E65. Phone Number |                          |               |
|---|-------------|-------------------|--------------------------|---------------|
| NOTE: Please enter the callsign of the contro callsign for which this application is being filed. |             |                   |                          |               |
| E62. Street Address   |             |                   |                          |               |
|   |             |                   |                          |               |
| E63. City   | E67. County |                   | E64/68.<br>State/Country | E66. Zip Code |

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

Location of Earth Station Site

E1: Site Identifier: FTTC E5. Call Sign:

E2: Contact Name Onsite Airfield E6. Phone 701–620–1842

Manager Number:

E3. Street: 122 Grand Sky E7. City: Emerado

Blvd

E8. County: Grand Forks

E4. State ND E9. Zip Code 58228

E10. Area of Operation: Grand Forks AFB/ FTTC

E11. Latitude: 0 °0 '0.0 "

E12. Longitude: 0 °0 '0.0 "

E13. Lat/Lon Coordinates are: NAD-27 NAD-83 N/A

E14. Site Elevation (AMSL): 0.0 meters

| 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 as a technical analysis showing compliance with two–degree spacing policy. | <b>●</b> Yes | s <b>O</b> | , No | O N/A |
|--|--------------|------------|------|-------|
| 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?                     | <b>⊚</b> Yes | s 0        | No   | O N/A |
| E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.   | O Ye         | es         | •    | No    |
| E18. Is frequency coordination required? If YES, attach a frequency coordination report as   | O Ye         | es         | •    | No    |
| E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as   | O Ye         | es         | •    | No    |
| E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have 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? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.                                   | O Ye         | es         | •    | No    |
| POINTS OF COMMUNICATION  |              |            |      |       |
| Satellite Name: If you selected OTHER, please enter the following:   |              |            |      |       |

| E21. Common Name:    |                 |                   |                        | E22. ITU Name:      |            |  |  |  |
|----------------------|-----------------|-------------------|------------------------|---------------------|------------|--|--|--|
| E23. Orbit Location: |                 |                   |                        |                     | ntry:      |  |  |  |
| POINTS OF C          | OMMUNICATION    | (Destination Poin | nts)                   |                     |            |  |  |  |
| E25. Site Identifier | :               |                   |                        |                     |            |  |  |  |
| E26. Common Nan      | me:             |                   |                        | E27. Cou            | ntry:      |  |  |  |
| ANTENNA              |                 |                   |                        | ,                   |            |  |  |  |
| Site ID              | E28. Antenna Id | E29. Quantity     | E30.<br>Manufac        | turer               | E31. Model | E32. Antenna<br>Size <meters></meters> | E41/42. Antenna GainTransmint and/or Recieve (dBi atGHz) |  |
| FTTC                 | M17             | 3                 | General I<br>Mission S | Oynamics<br>Systems | M17-27A    | 0.68                                   | 37.75 dBi at 12.75                                       |  |
|                      |                 |                   |                        |                     |            |  | 38.81 dBi at 14.50                                       |  |

| E28. Antenna<br>Id | E33/34.<br>Diameter<br>Minor/Major<br>(meters) | E35. Above<br>Ground<br>Level<br><br>(meters) | (meters) | Height Above<br>Ground | Input Power at antenna flange<br> | Maximum<br>Antenna Height | E40. Total<br>EIRP for al<br>carriers<br><br>(dBW) |
|--------------------|--|---|----------|------------------------|-----------------------------------|---------------------------|--|
| M17                | 0.68/0.68                                      | 10668.0                                       | 10585.0  | 0.0                    | 30.0                              | 0.0                       | 53.57  |

# FREQUENCY

| E28. Antenna Id | E43/44.         | E45. T/R Mode | E46. Antenna          | E47. Emission | E48. Maximum     | E49. Maximum     |
|-----------------|-----------------|---------------|-----------------------|---------------|------------------|------------------|
|                 | Frequency Bands |               | Polarization(H,V,     | Designator    | EIRP per Carrier | ERIP Density per |
|                 | (MHz)           |               | <b>L</b> , <b>R</b> ) |               | (dBW)            | Carrier          |
|                 |                 |               |                       |               |                  | (dBW/4kHz)       |

| M17 | 11700 | R | Horizontal and | 20M0G2D | 0.0 | 0.0 |
|-----|-------|---|----------------|---------|-----|-----|
|     | 12200 |   | Vertical       |         |     |     |

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Digital Data, various FEC, data rates, and modulations

| M17 | 14000 | Т | Horizontal and | 20M0G2D | 53.57 | 24.7 |  |
|-----|-------|---|----------------|---------|-------|------|--|
|     | 14500 |   | Vertical       |         |       |      |  |

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Digital Data, various FEC, data rates, and modulations

### FREQUENCY COORDINATION

| E28.<br>Antenna Id | E51. Satellite<br>Orbit Type | Frequency<br>Limits(MHz) | Range of<br>Satellite Arc<br>E/W Limit | Station<br>Azimuth<br>Angle |     | Station<br>Azimuth<br>Angle | Antenna<br>Elevation<br>Angle<br>Western | E60.<br>Maximum<br>EIRP Density<br>toward the<br>Horizon<br>(dBW/4kHz) |
|--------------------|------------------------------|--------------------------|--|-----------------------------|-----|-----------------------------|--|--|
| M17                | Geostationary                | 14000<br>14500           | 0.0/ 0.0                               | 0.0                         | 0.0 | 90.0                        | 90.0                                     | 24.7   |

REMOTE CONTROL POINT LOCATION

| E61. Call Sign  |             | E65. Phone Number |                          |               |
|---|-------------|-------------------|--------------------------|---------------|
| NOTE: Please enter the callsign of the contro callsign for which this application is being filed. |             |                   |                          |               |
| E62. Street Address   |             |                   |                          |               |
|   |             |                   |                          |               |
| E63. City   | E67. County |                   | E64/68.<br>State/Country | E66. Zip Code |

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

Location of Earth Station Site

E1: Site Identifier: GB E5. Call Sign:

E2: Contact Name Flightline E6. Phone 661–224–5960

Number:

Operations

Manager

E3. Street: 25500 E Ave R 8 E7. City: Palmdale

E8. County: Los Angeles

E4. State CA E9. Zip Code 93591

E10. Area of Operation: Gray Butte/ El Mirage

E11. Latitude: 0 °0 '0.0 "

E12. Longitude: 0 °0 '0.0 "

E13. Lat/Lon Coordinates are: NAD-27 NAD-83 N/A

E14. Site Elevation (AMSL): 0.0 meters

| 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 as a technical analysis showing compliance with two–degree spacing policy. | <b>●</b> Yes | O No | O N/A |
|--|--------------|------|-------|
| 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?                     | <b>⊚</b> Yes | O No | O N/A |
| E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.   | O Yes        | •    | No    |
|  |              |      |       |
| E18. Is frequency coordination required? If YES, attach a frequency coordination report as   | O Yes        | •    | No    |
| E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as   | O Yes        | •    | No    |
| E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have 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?  FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.                                  | O Yes        | •    | No    |
| POINTS OF COMMUNICATION  | 1            |      |       |
| Satellite Name: If you selected OTHER, please enter the following:   |              |      |       |

| E21. Common N      | Vame:                                 |            |                                      |                            |                        | E22. ITU  | Name:  |  |      |  |  |
|--------------------|---------------------------------------|------------|--------------------------------------|----------------------------|------------------------|---|--------|--|------|--|--|
| E23. Orbit Loca    | tion:                                 |            |                                      |                            |                        | E24. Cou  | ntry:  |  |      |  |  |
| POINTS OF          | COMMUNICAT                            | ΓΙΟΝ       | (Destination                         | on Points                  | s)                     | <u> </u>  |        |  |      |  |  |
| E25. Site Identif  | ier:                                  |            |                                      |                            |                        |   |        |  |      |  |  |
| E26. Common N      | Vame:                                 |            |                                      |                            |                        | E27. Country:   |        |  |      |  |  |
| ANTENNA            |                                       |            |                                      |                            |                        | 1   |        |  |      |  |  |
| Site ID            | E28. Antenna                          | Id         | E29. Quar                            | ntity                      | E30.<br>Manufac        | turer   | E31. N | <b>Aodel</b>   |      | <meters></meters>                                    | E41/42, Antenna GainTransmint and/or Recieve (dBi atGHz) |
| GB                 | M17                                   |            | 3                                    |                            | General I<br>Mission S | -   | M17-2  | 27A  | 0.68 |  | 38.81 dBi at 14.5  |
|                    |                                       |            |                                      |                            |                        |   |        |  |      |  | 37.75 dBi at 12.75                                       |
| E28. Antenna<br>Id | E33/34. Diameter Minor/Major (meters) | Gro<br>Lev | S. Above<br>ound<br>el<br><br>eters) | E36. A<br>Level<<br>(meter | BR>                    | E37. Bui<br>Height A<br>Ground<br>Level <bl<br>(meters)</bl<br> | bove   | E38. Total<br>Input Powe<br>antenna<br>flange<br><br>(Watts) |      | E39. Maximum Antenna Heigh Above Rooftop<br>(meters) | E40. Total<br>EIRP for al<br>carriers<br><br>(dBW)       |
| M17                | 0.68/0.68                             | 106        | 68.0                                 | 10585.                     | 0                      | 0.0   |        | 30.0   |      | 0.0  | 53.57  |
| FREQUENCY          |                                       | -          |                                      | ·                          |                        | !   |        | !  |      |  |  |

E46. Antenna

L,R)

Polarization(H,V,

E47. Emission

Designator

E49. Maximum

Carrier (dBW/4kHz)

**ERIP Density per** 

E48. Maximum

(dBW)

EIRP per Carrier

E28. Antenna Id

E43/44.

Frequency Bands (MHz)

E45. T/R Mode

| M17 | 11700 | R | Horizontal and | 20M0G2D | 0.0 | 0.0 |
|-----|-------|---|----------------|---------|-----|-----|
|     | 12200 |   | Vertical       |         |     |     |

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Digital Data, various FEC, data rates, and modulations

| M17 | 14000 | T | Horizontal and | 20M0G2D | 53.57 | 24.7 |
|-----|-------|---|----------------|---------|-------|------|
|     | 14500 |   | Vertical       |         |       |      |

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Digital Data, various FEC, data rates, and modulations

### FREQUENCY COORDINATION

| E28.<br>Antenna Id | E51. Satellite<br>Orbit Type | Frequency<br>Limits(MHz) | Range of<br>Satellite Arc<br>E/W Limit | Station<br>Azimuth<br>Angle |     | Station<br>Azimuth<br>Angle | Antenna<br>Elevation<br>Angle<br>Western | E60.<br>Maximum<br>EIRP Density<br>toward the<br>Horizon<br>(dBW/4kHz) |
|--------------------|------------------------------|--------------------------|--|-----------------------------|-----|-----------------------------|--|--|
| M17                | Geostationary                | 14000<br>14500           | 0.0/ 0.0                               | 0.0                         | 0.0 | 90.0                        | 90.0                                     | 24.7   |

REMOTE CONTROL POINT LOCATION

| E61. Call Sign  |             | E65. Phone Number |                          |               |
|---|-------------|-------------------|--------------------------|---------------|
| NOTE: Please enter the callsign of the contro callsign for which this application is being filed. |             |                   |                          |               |
| E62. Street Address   |             |                   |                          |               |
|   |             |                   |                          |               |
| E63. City   | E67. County |                   | E64/68.<br>State/Country | E66. Zip Code |

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