

## SUPPORTING STATEMENT

1. The Federal Communications Commission (“Commission”) is requesting that the Office of Management and Budget (OMB) approve a new information collection titled, “Establishment of Policies and Service Rules for the Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band and at the 17.7-17.8 GHz Frequency Band Internationally, and at the 24.75-25.25 GHz Frequency Band for Fixed Satellite Services Providing Feeder Links to the Broadcasting-Satellite Service and for the Satellite Services Operating Bi-directionally in the 17.3-17.8 GHz Frequency Band” (17/24 GHz BSS)<sup>1</sup>. On June 14, 2011, the Commission released a Second Report and Order (Order) titled, “In the Matter of The Establishment of Policies and Service Rules for the Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band and at the 17.7-17.8 GHz Frequency Band Internationally, and at the 24.75-25.25 GHz Frequency Band for Fixed Satellite Services Providing Feeder Links to the Broadcasting-Satellite Service and for the Satellite Services Operating Bi-directionally in the 17.3-17.8 GHz Frequency Band” IB Docket No. 06-123, FCC 11-93.

A total of 8 companies have applied to the Commission to provide Broadcasting Satellite Service (BSS) or are currently authorized by the Commission to provide Direct Broadcast Satellite Service (DBS).

This Order contains the following new information collection requirements for which we seek OMB approval:

### **New Information Collection Requirements**

**47 CFR 25.114(d)(15)(iv)** – Applicants filing for a space station authorization must file the information required in Section 26.264(a)-(b).

**47 CFR 25.114(d)(18)** - Applicants filing for a space station authorization in the Direct Broadcast Satellite service or the 17/24 GHz broadcasting-satellite service, must provide maximum orbital eccentricity calculations.

**47 CFR 25.264(a)** - Each applicant for a space station license in the 17/24 GHz broadcasting-satellite service (BSS) must provide a series of tables or graphs with its application, that contain the predicted transmitting antenna off-axis gain information for each transmitting antenna in the 17.3-17.8 GHz frequency band. Using a Cartesian coordinate system wherein the X-axis is defined as tangent to the geostationary orbital arc with the positive direction pointing east, *i.e.*, in the direction of travel of the satellite;

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<sup>1</sup> BSS is the term used for radio communication service in which signals transmitted or retransmitted by space stations are intended for a direct reception by the general public. The term 17/24 GHz BSS generally refers to the broadcasting-satellite service operating on space-to-Earth (downlink) frequencies in the 17.3-17.8 GHz band and the corresponding Earth-to-space (uplink) frequencies in the 24.75-25.25 GHz band.

the Y-axis is defined as parallel to a line passing through the geographic north and south poles of the Earth, with the positive direction pointing south; and the Z-axis is defined parallel to a line passing through the center of the Earth, with the positive direction pointing toward the Earth, the applicant must provide the predicted transmitting antenna off-axis antenna gain information:

- (1) in the X-Z plane, *i.e.*, the plane of the geostationary orbit, over a range of  $\pm 30$  degrees from the positive and negative X-axes in increments of 5 degrees or less.
- (2) in planes rotated from the X-Z plane about the Z-axis, over a range of up to  $\pm 60$  degrees relative to the equatorial plane, in increments of 10 degrees or less.
- (3) in both polarizations.
- (4) at a minimum of three measurement frequencies determined with respect to the entire portion of the 17.3-17.8 GHz frequency band over which the space station is designed to transmit: 5 MHz above the lower edge of the band; at the band center frequency; and 5 MHz below the upper edge of the band.
- (5) over a greater angular measurement range, if necessary, to account for any planned spacecraft orientation bias or change in operating orientation relative to the reference coordinate system. The applicant must also explain its reasons for doing so.

**47 CFR 25.264(b)** - Each applicant for a space station license in the 17/24 GHz BSS must provide power flux density (pfd) calculations with its application that are based upon the predicted off-axis transmitting antenna gain information submitted in accordance with paragraph (a) of this section, as follows:

- (1) the pfd calculations must be provided at the location of all prior-filed U.S. DBS space stations where the applicant's pfd level exceeds the coordination trigger of -117 dBW/m<sup>2</sup>/100 kHz in the 17.3-17.8 GHz band. In this rule, the term prior-filed U.S. DBS space station refers to any Direct Broadcast Satellite service space station application that was filed with the Commission (or authorization granted by the Commission) prior to the filing of the 17/24 GHz BSS application containing the predicted off-axis transmitting antenna gain information. The term prior-filed U.S. DBS space station does not include any applications (or authorizations) that have been denied, dismissed, or are otherwise no longer valid. Prior-filed U.S. DBS space stations may include foreign-licensed DBS space stations seeking authority to serve the United States market, but do not include foreign-licensed DBS space stations that have not filed applications with the Commission for market access in the United States.
- (2) the pfd calculations must take into account the maximum longitudinal station-keeping tolerance, orbital inclination and orbital eccentricity of both the 17/24 GHz BSS and DBS space stations, and must:

(i) identify each prior-filed U.S. DBS space station at whose location the coordination threshold pfd level of  $-117 \text{ dBW/m}^2/100 \text{ kHz}$  is exceeded; and

(ii) demonstrate the extent to which the applicant's transmissions in the 17.3-17.8 GHz band exceed the threshold pfd level of  $-117 \text{ dBW/m}^2/100 \text{ kHz}$  at those prior-filed U.S. DBS space station locations.

(3) if the calculated pfd level is in excess of the threshold level of  $-117 \text{ dBW/m}^2/100 \text{ kHz}$  at the location of any prior-filed U.S. DBS space station, the applicant must also provide with its application certification that all affected DBS operators acknowledge and do not object to the applicants higher off-axis pfd levels. No such certification is required in cases where the DBS and 17/24 GHz BSS assigned operating frequencies do not overlap.

**47 CFR 25.264(c)** - No later than nine months prior to launch, each 17/24 GHz BSS space station applicant or authorization holder must confirm the predicted transmitting antenna off-axis gain information provided in accordance with §25.114(d)(15)(iv) by submitting measured transmitting antenna off-axis gain information over the angular ranges, measurement frequencies and polarizations described in paragraphs (a)(1)-(5) of this section. The transmitting antenna off-axis gain information should be measured under conditions as close to flight configuration as possible.

**4. 47 CFR 25.264(d)** - No later than nine months prior to launch, each 17/24 GHz BSS space station applicant or authorization holder must provide pfd calculations based upon the measured transmitting antenna off-axis gain information that is submitted in accordance with paragraph (c) of this section as follows:

(1) the pfd calculations must be provided:

(i) at the location of all prior-filed U.S. DBS space stations as defined in paragraph (b)(1) of this section, where the applicant's pfd level in the 17.3-17.8 GHz band exceeds the coordination trigger of  $-117 \text{ dBW/m}^2/100 \text{ kHz}$ ; and

(ii) at the location of any subsequently-filed DBS U.S. DBS space station where the applicant's pfd level in the 17.3-17.8 GHz band exceeds the coordination trigger of  $-117 \text{ dBW/m}^2/100 \text{ kHz}$ . In this rule, the term subsequently-filed U.S. DBS space station refers to any Direct Broadcast Satellite service space station application that was filed with the Commission (or authorization granted by the Commission) after the 17/24 GHz BSS operator submitted the predicted data required by paragraphs (a)-(b) of this section, but prior to the time the 17/24 GHz BSS operator submitted the measured data required in this paragraph. Subsequently-filed U.S. DBS space stations may include foreign-licensed DBS space stations seeking authority to serve the United States market. The term does not include any applications (or authorizations) that have been denied, dismissed, or are otherwise no longer valid, nor does it include foreign-licensed DBS

space stations that have not filed applications with the Commission for market access in the United States.

(2) the pfd calculations must take into account the maximum longitudinal station-keeping tolerance, orbital inclination and orbital eccentricity of both the 17/24 GHz BSS and DBS space stations, and must:

(i) identify each prior-filed U.S. DBS space station at whose location the coordination threshold pfd level of  $-117 \text{ dBW/m}^2/100 \text{ kHz}$  is exceeded; and

(ii) demonstrate the extent to which the applicant's or licensee's transmissions in the 17.3-17.8 GHz band exceed the threshold pfd level of  $-117 \text{ dBW/m}^2/100 \text{ kHz}$  at those prior-filed U.S. DBS space station locations.

**47 CFR 25.264(f)** - The 17/24 GHz BSS applicant or licensee must modify its license, or amend its application, as appropriate, based upon new information:

(1) if the pfd levels submitted in accordance with paragraph (d) of this section, are in excess of those submitted in accordance with paragraph (b) of this section at the location of any prior-filed or subsequently-filed U.S. DBS space station as defined in paragraphs (b)(1) and (d)(1) of this section, or

(2) if the 17/24 GHz BSS operator adjusts its operating parameters in accordance with paragraphs (e)(1)(ii) or (e)(2)(ii) or this section.

The Commission has statutory authority for the information collection requirements under Sections 1, 4(i), 4(j), 7(a), 301, 303(c), 303(f), 303(g), 303(r), 303(y) and 308 of the Communications Act of 1934, as amended, 47 U.S.C. 151, 154(i), 154(j), 157(a), 301, 303(c), 303(f), 303(g), 303(r), 303(y), and 308.

This information collection does not affect individuals or households, thus, there are no impacts under the Privacy Act.

2. In the Second Report and Order, the Commission adopts rules to mitigate space path interference between the 17/24 GHz BSS space-to-Earth transmissions and the feeder link receiving antennas of Direct Broadcasting Service (DBS) space stations which operate in the same frequency bands. To this end, the Second Report and Order adopts a pfd coordination trigger and antenna off-axis gain information requirements. We also adopt a minimum orbital separation requirement of 0.2 and place bounds on orbital inclination and eccentricity. Further, we adopt procedural requirements for information submission, procedures to follow in the event of harmful interference, in the event of BSS space path interference into the telecommand links of DBS networks. Finally, we adopt

procedures to bring current authorizations and current applications in line with the new rules adopted. Each applicant for a space station authorization (or request for market access for a non-U.S. licensed space station), including BSS operators, must submit a comprehensive proposal for each proposed space station (FCC Form 312, Schedule S, and attached narrative exhibits) to the Commission to demonstrate that it complies with the Commission's legal and/or engineering rules. The Commission's Schedule B relates to earth station technical information. The Second Report and Order did not change the earth station technical information requirements.

3. Earth and space station applicants must file a comprehensive proposal for the station authorization requested. The application includes the FCC Form 312, Schedules B and S (as applicable), and narrative exhibits and it is filed in the International Bureau Filing System (IBFS). It is estimated that 100 percent of all applications are filed in the IBFS electronically. The Commission received approval for mandatory electronic filing of all satellite and earth station applications under OMB Control No. 3060-0678. Additionally, the FCC Form 312, Schedule B and Schedule S are approved by the OMB under OMB Control No. 3060-0678.

4. This information collection requirement is not duplicated elsewhere.

5. In conformance with the PRA, the Commission made an effort to minimize the burden on all respondents, regardless of size. The Commission limited the information collection requirements to those that are absolutely necessary for evaluating and processing the application and for deterring possible abuses of the application process. T The Commission believes that the Second Report and Order will not have a substantial impact on any small entities because the parties impacted by the Second Report and Order rarely qualify as a small business entity as defined by the Small Business Administration rules.

6. If various data in this collection were not filed in conjunction with our rules, then applicants and licensees would not obtain the authorization necessary to provide telecommunications services; the Commission would not be able to carry out its mandate as required by statute; and applicants and licensees would not be able to effectively provide services to the public.

7. The collection of information is not being conducted in any manner known to be inconsistent with the guidelines in 5 CFR 1320. There are no special circumstances associated with this collection.

8. A 60-day notice (76 FR 45567) was published in the Federal Register on July 29, 2011 seeking comments from the public on the information collection requirements contained in this supporting statement. The Commission did not receive any comments from the public.

9. The Commission does not provide any payment or gift to respondents.
10. The Commission does not provide assurances of confidentiality to entities submitting their filings and applications. However, entities may request confidential treatment of their applications and filings under 47 C.F.R. 0.459 of the Commission's rules. With regard to certifications filed pursuant to Part 2 of the Commission's rules, parties receive minimal exemption from the Freedom of Information Act (FOIA).
11. This collection does not contain questions of a sensitive nature.
12. Estimate of Burden Hours: Please see the chart below for the frequency of response, time per response, total annual burden hours, and explanation of burden estimate for the **8 respondents** to this information collection.

| Explanation of Burden Estimate <sup>2</sup>                                                                                                                                | Number of Responses | Frequency of Response | Time Per Response | Total Annual Burden Hours |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------|-------------------|---------------------------|
| <b>Rule Section: 25.114(d)(18)</b><br>BSS and DBS applicants must provide maximum orbital eccentricity calculations                                                        | 8<br>Responses      | 1<br>On occasion      | 2<br>Hours        | 16<br>Hours               |
| <b>Rule Section: 25.264(a)</b><br>BSS applicant must calculate and provide predicted transmitting antenna off-axis gain information for each transmitting antenna          | 8<br>Responses      | 1<br>On occasion      | 16<br>Hours       | 128<br>Hours              |
| <b>Rule Section: 25.264(b)</b><br>BSS applicant must provide power flux density calculations based upon predicted off-axis transmitting antenna data required in 26.264(a) | 8<br>Responses      | 1<br>On occasion      | 24<br>Hours       | 192<br>Hours              |

<sup>2</sup> The burden hours for Section 25.114(d)(15)(iv) are accounted for under Section 26.264(a)-(b).

| Explanation of Burden Estimate                                                                                                                                                                                                                                                           | Number of Responses             | Frequency of Response        | Time Per Response   | Total Annual Burden Hours      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------|---------------------|--------------------------------|
| <b>Rule Section: 25.264(c)</b><br>No later than nine months prior to launch, 17/24 GHz BSS applicant or authorization holder must confirm the predicted transmitting antenna off-axis gain information                                                                                   | 8 Responses                     | 1 On occasion                | 36 Hours            | 288 Hours                      |
| <b>Rule Section: 25.264(d)</b><br>No later than nine months prior to launch, 17/24 GHz BSS applicant or authorization holder must provide pfd calculations based upon the measured transmitting antenna off-axis gain information required in 25.264(c)                                  | 8 Responses                     | 1 On occasion                | 24 Hours            | 192 Hours                      |
| <b>Rule Section: 25.264(f)</b><br>The 17/24 GHz BSS applicant or licensee must modify its license, or amend its application if the pfd levels submitted in accordance with 25.264(d) exceed those submitted in response to 25.264(b) or if the operator adjusts its operating parameters | 8 Responses                     | 1 On occasion                | 4 Hours             | 32 Hours                       |
| <b>Totals:</b>                                                                                                                                                                                                                                                                           | <b>48 Responses<sup>3</sup></b> | <b>Frequency of Response</b> | <b>2 - 36 Hours</b> | <b>848 Annual Burden Hours</b> |

<sup>3</sup> The responses are part of each BSS operator's space station application (FCC Form 312, Schedule S and narrative attachment). The specific information sought by these new rules is requested as part of the narrative to the application (as opposed to the FCC Form 312 or Schedule S). An operator can put all narrative responses into one document or put its narrative responses into multiple documents at its discretion. Thus, each BSS operator would add six new responses to its narrative attachment(s).

**“In house Cost”**- In house staff who will be working on the information collection requirements contained in the chart above is estimated to have an hourly salary of \$60/hour. Therefore, the in house costs to respondents are  $848 \times \$60/\text{hour} =$  **\$50,880.**

13. Estimate of the Total Annual Cost Burden to Respondents

Respondents are assumed to use outside legal or engineering assistance in order to complete their applications. The cost to applicants for these services is estimated at \$300 per hour. This figure is based on a small survey of local firms in the D.C. area.

$\$300 \text{ per hour} \times 48 \text{ responses} \times 3 \text{ hours per response} = \$43,200$  Annual Costs for Outside Legal/Engineering Assistance.

Application Filing Fees: The fees associated with 17/24 GHz BSS filings shall be those associated with filings in Section 1.1107 of the Commission’s rules. Current authorization holders and current applicants who file conforming modifications and/or amendments to their applications in compliance with this 17/24 GHz BSS Second Report and Order will not be charged for their filing. In the future, applicants who file for a new 17/24 GHz BSS space station authorization will be charged \$115,990.00. Applicants who are seeking U.S. market access for non-U.S. licensed 17/24 GHz BSS space stations are exempt from filing fee requirements.

A total of 8 respondents  $\times$  \$0.00 filing fee  $\times$  1 filing = **\$0.00**

**Total Annualized Cost:**

| <b>Total Costs to the Industry</b>                     | <b>Totals</b>   |
|--------------------------------------------------------|-----------------|
| Estimated Application Filing Fees                      | \$0.00          |
| Estimated Cost of Outside Legal/Engineering Assistance | \$43,200        |
| <b>Total Cost to Respondents</b>                       | <b>\$43,200</b> |

14. Estimate of Annualized Cost to the Federal Government:



The estimate of annualized cost to the Federal government is summarized in the chart below. As shown in the chart, the annualized costs to the Federal government are \$34,815.20. The chart contains staff salaries, burden hours and annualized costs.

| <b>Federal Government Staff</b> | <b>Number<br/>of Staff</b> | <b>Salary<br/>Per Hour</b> | <b>Annual<br/>Burden<br/>Hours</b> | <b>Annualized<br/>Costs</b> |
|---------------------------------|----------------------------|----------------------------|------------------------------------|-----------------------------|
| GS-15/Step 5 Attorney           | 1                          | \$67.21                    | 140                                | \$9,409.40                  |
| GS-14/Step 5 Attorney           | 1                          | \$57.13                    | 140                                | \$7,998.20                  |
| GS-15/Step 5 Engineers          | 1                          | \$67.21                    | 140                                | \$9,409.40                  |
| GS-14/Step 5 Engineers          | 1                          | \$57.13                    | 140                                | \$7,998.20                  |
|                                 |                            |                            |                                    | <b>\$34,815.20</b>          |

15. This Supporting Statement reflects program changes/increases of 8 to the number of respondents, 48 to the annual number of responses, 848 to the annual burden hours and \$43,200 in annual costs which are due from the information collection requirements contained in FCC 11-93.

16. The results of this information collection requirement will not be published for statistical use.

17. Not applicable. The Commission is not seeking approval to not display the expiration date for OMB approval of this information collection.

18. A 60-day notice (include FR Cite) was published in the Federal Register on (DATE) seeking comments from the public on the information collection requirements contained in this supporting statement. The Commission inadvertently published in the notice that this collection was a new collection. This is not the case this collection is assigned OMB control number 3060-1097. There are no other exceptions to the certification statement.

**B. Collections of Information Employing Statistical Methods:**

Not applicable. This information collection does not employ statistical methods.