



PUBLIC NOTICE

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WIRELESS TELECOMMUNICATIONS BUREAU, OFFICE OF ENGINEERING AND TECHNOLOGY, AND INTERNATIONAL BUREAU ANNOUNCE PROCEDURES FOR REGISTRATION OF FIXED SATELLITE SERVICE EARTH STATIONS ENTITLED TO PROTECTION FROM THE 3.5 GHZ CITIZENS BROADBAND RADIO SERVICE

GN Docket No. 17-258

By this Public Notice, the Wireless Telecommunications Bureau, Office of Engineering and Technology, and International Bureau provide information on registration procedures for Fixed Satellite Service (FSS) earth stations entitled to protection from Citizens Broadband Radio Service users.¹ This Public Notice explains: (1) the eligibility requirements for in-band and adjacent band FSS earth stations that are entitled to protection; (2) an overview of the FSS earth station registration process; (3) the information that must be provided during the registration process;² and (4) a web link to detailed information on the application program interface (API) that SAS Administrators will use to access the registration database. The annual registration requirement is specified in 47 CFR §96.17(d)(1).

In developing the rules governing the Citizens Broadband Radio Service, the Commission recognized the need to: (1) protect incumbent earth stations operating in the 3600-3650 MHz band from harmful interference;³ (2) protect existing FSS earth stations operating in the adjacent 3700-4200 MHz⁴ band (C-band) from harmful interference;⁵ and (3) address the ongoing protection of previously grandfathered FSS earth stations in the 3650-3700 MHz band.⁶ The Commission concluded that a Spectrum Access System (SAS)-based system of frequency coordination and Citizens Broadband Radio Service Devices (CBSD) authorization could be effective in protecting both in-band and adjacent band FSS earth stations from CBSD interference.⁷ Accordingly, the Commission adopted measures to protect FSS earth stations in the 3.5 GHz Band and the neighboring C-band. Earth station protection will be

¹ See *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, GN Docket No. 12-354, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 3959 (2015) (*3.5 GHz First R&O*); *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, GN Docket No. 12-354, Order on Reconsideration and Second Report and Order, 31 FCC Rcd 5011 (2016) (*3.5 GHz Second R&O*).

² The Commission directed the Wireless Telecommunications Bureau to release a public notice describing the registration process and to include the annual filing deadline in the public notice. *3.5 GHz Second R&O* at 5056, para. 162.

³ See *3.5 GHz First R&O*, 30 FCC Rcd at 4042, para. 277.

⁴ The 3700-4200 MHz band is the downlink portion of the conventional C-band. See 47 CFR § 25.103.

⁵ *3.5 GHz First R&O*, 30 FCC Rcd at 4047, para. 292.

⁶ See *3.5 GHz Second R&O*, 31 FCC Rcd at 5054, para. 136.

⁷ *3.5 GHz First R&O*, 30 FCC Rcd at 4046, para. 289.

limited to those earth stations that submit annual registration information submitted by eligible FSS earth station licensees.⁸

Which Earth Stations are Eligible for Registration?

FSS Earth Station licensees operating in the 3600-3650 MHz Band. As noted in the *3.5 GHz First R&O*, the Commission has licensed primary FSS earth stations to receive on frequencies in the 3600-3650 MHz band.⁹ In that Report and Order, the Commission adopted a change to the Table of Allocations that limited co-primary FSS earth stations in the 3600-3650 MHz band to those: (1) authorized prior to, or granted as a result of, an application filed prior to July 23, 2015, and (2) constructed within 12 months of the initial authorization.¹⁰ Earth stations meeting these criteria are considered incumbent FSS earth stations and may be registered with the Commission for protection under the new rules.

If the licensee of one of these incumbent FSS earth stations registers with the Commission following the procedures outlined below, the registration information submitted by the licensee will be provided to all SASs approved by the Commission.¹¹ These earth stations will be protected from interference by CBSDs as specified in Section 96.17(a) of the Commission's rules.¹² An earth station must be registered to receive these protections.

FSS Earth Station licensees operating in the 3650-3700 MHz Band. There will be a transition period for grandfathered FSS earth station licensees in the 3650-3700 MHz band. Existing protection criteria for in-band FSS earth stations in the 3650-3700 MHz band in Part 90 of the Commission's rules will remain in place "until the last Grandfathered Wireless Broadband Licensee's license expires within the protection area defined for a particular grandfathered FSS earth station."¹³ Grandfathered FSS earth stations licensees operating in the 3650-3700 MHz band will be permitted to register for protection under the same terms as FSS earth station licensees in the 3600-3650 MHz band, and such protections will become effective after the Part 90 protections sunset.¹⁴

FSS Earth Station licensees operating in the 3700-4200 MHz Band. FSS earth stations operating in the 3700-4200 MHz frequency band will be protected from interference primarily through the imposition of strict out-of-band emissions limits.¹⁵ Nevertheless, some licensed FSS earth stations

⁸ See *3.5 GHz Second R&O*, 31 FCC Rcd at 5053, 5055, paras. 152, 158; 47 CFR § 96.17.

⁹ *3.5 GHz First R&O*, 30 FCC Rcd at 4042, para. 276.

¹⁰ *Id.* at 3973-74, paras. 37-39; 47 CFR § 2.106, note US 107. Any new FSS earth stations in the 3600-3650 MHz band, applied for after July 23, 2015, will be authorized on a secondary basis to non-federal stations in the fixed and land mobile services. *Id.* at 3973, para. 37; 47 CFR § 2.106, note US 107.

¹¹ 47 CFR § 96.17(d). An "SAS Administrator" is defined as "an entity authorized by the Commission to operate an SAS in accordance with the rules and procedures set forth in section 96.63." 47 CFR § 96.3. SAS functions include ensuring that CBSDs protect non-federal incumbent users, and each SAS will be required to synchronize itself with Commission databases at least once a day so that the information in the SAS remains current. *3.5 GHz First R&O*, 30 FCC Rcd at 4065, para. 361; see 47 CFR § 96.63(b).

¹² *3.5 GHz First R&O*, 30 FCC Rcd at 4046, paras. 289-290.

¹³ *3.5 GHz Second R&O*, 31 FCC Rcd. at 5055, para. 158, Appendix A, § 96.17(a)(1).

¹⁴ *Id.*

¹⁵ *Id.* at 5098, para. 296.

operating in this band may still register with the Commission for protection under the new rules.¹⁶ Specifically, registered, licensed FSS earth stations that are identified as having telemetry, tracking, and control (TT&C) responsibilities will be protected from interference by CBSDs as specified in Section 96.17(b) of the Commission's rules.¹⁷

When is Registration and How Will Registration Work? Registration of the FSS earth stations subject to this public notice will be completed through a web-based form that is currently in development. The Wireless Telecommunications Bureau, International Bureau, and Office of Engineering and Technology will issue another Public Notice announcing when the registration system is operational. This subsequent Notice will: (1) provide detailed registration instructions for earth station licensees; and (2) establish a window for initial registrations. Once the registration system is operational, initial registration can be completed at any time. All registrations must be renewed annually by December 1 for the registration to be valid at the beginning of the subsequent year.¹⁸ Late-filed registrations and renewals will be accepted and protections will be implemented by the SASs as soon as reasonably practicable after filing. FSS earth station licensees requesting protection must also update their registration in the event of a change in any of the operational parameters listed below.¹⁹

What Information is Required? Initial and annual registration for each earth station must include the following information:²⁰

- the earth stations' geographic location (using NAD83 coordinates);
- antenna gain;
- azimuth and elevation gain pattern;
- antenna azimuth relative to true north;
- antenna elevation angle;
- whether the earth station is used for satellite TT&C (for earth stations operating in the 3700-4200 MHz band);²¹
- antenna site elevation and height above ground;
- longitude of GSO satellite location;

¹⁶ *Id.* at 5053, para. 152; 47 CFR § 96.17(b), (f).

¹⁷ See 47 CFR § 96.17(b); *3.5 GHz Second R&O*, 31 FCC Rcd at 5099, para. 298. Other registered FSS earth stations operating in this band may request additional protection from SAS Administrators—through processes established by the SAS Administrators—to prevent harmful interference into their systems under section 96.17(f) of the Commission's rules. SAS Administrators must also promptly address reports of interference or requests for additional protection from 3700-4200 MHz licensees. See *3.5 GHz Second R&O*, 31 FCC Rcd at 5099, para. 301; 47 CFR § 96.17(f). The *3.5 GHz Second R&O* also stated that “[w]e encourage SAS Administrators to take appropriate steps to address any requests or complaints that they receive, and direct WTB and OET to review complaint receipt and resolution procedures during the SAS approval process.” *3.5 GHz Second R&O*, 31 FCC Rcd at 5100, para. 301.

¹⁸ 47 CFR § 96.17(d) (“FSS earth station licensees requesting protection under this part must register with the Commission annually, no later than 30 days before the end of the preceding calendar year, or upon making changes to any of the operational parameters listed in this section.”).

¹⁹ *Id.*

²⁰ This includes information required by the Commission's rules as well as additional information necessary to ensure that SASs can appropriately protect registered FSS earth stations. See 47 CFR § 96.17(d)(1).

²¹ See 47 CFR § 96.17(b) (“Registered FSS earth stations in the 3700-4200 MHz band listed at www.fcc.gov/cbrs-protected-fss-sites shall be protected from CBSD operation in accordance with this section. Only licensed FSS earth stations used for satellite telemetry, tracking, and control (TT&C) operations will be protected under this section.”)

- frequency range of FSS frequency assignments to be protected;
- registration time and reference data;
- certifier contact information;
- licensee, point of contact, and call sign information.

To minimize the administrative burden on licensees, the registration system will include a streamlined registration renewal process for earth stations that have not changed their registered parameters in the prior year.

How will this Information be Used? As noted, this information will be publicly available and will be provided to all SAS Administrators. It will be used to ensure that CBSDs protect licensed, registered earth stations from harmful interference consistent with the parameters of section 96.17 of the Commission's rules. Public access to information on: (1) FSS earth stations licensed to operate in the 3600-3700 MHz frequency band; (2) FSS earth stations licensed to operate in the 3700-4200 MHz frequency band that are used for TT&C and registered in the database; and (3) information on the database API is available at www.fcc.gov/cbrs-protected-fss-sites.²²

Further Questions? For additional information, please contact Paul Powell, Assistant Division Chief, Wireless Telecommunications Bureau, Mobility Division at paul.powell@fcc.gov or (202) 418-1613; Paul Blais, Chief, International Bureau, Systems Analysis Branch at paul.blais@fcc.gov or (202) 418-7274 or IBFSINFO@fcc.gov; or Robert Pavlak, Senior Engineer, Office of Engineering and Technology, Electromagnetic Compatibility Division at robert.pavlak@fcc.gov or (202) 418-0761.

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²² See 47 CFR § 96.17(a), (b).