



Satellite Industry Association¹ Issues for Consideration Regarding NGSO FSS Licensing and NGSO/NGSO Sharing

30 Mar 16 Meeting with FCC

One Third Rule

- The one third rule (§ 25.157(e)(2)) requires that the available spectrum in each processing round be divided equally among at least three NGSO FSS systems.
- The FCC should consider whether this rule continues to be necessary and appropriate to further the Commissions goals.
- The FCC should (1) review the choice of one-third as the relevant sharing metric, and (2) consider whether selecting a single number that would apply to all spectrum bands is the most appropriate approach.
 - Should the selection of the most appropriate number be decided on the basis of technical feasibility, spectrum efficiency, promoting competition, or some other basis?
 - Should the FCC revisit its current assumptions about what constitutes an individual “spectrum band” for purposes of the one third rule?
- If the FCC maintains the one third rule, should the first and second NGSO FSS entrants be permitted to use the entire spectrum band until a third entrant launches?

NGSO/NGSO Sharing Rule

- FCC adopted “Avoidance of In-Line Interference Events” spectrum sharing for certain NGSO FSS services. Where NGSO FSS systems do not maintain a 10° angle of avoidance between satellites, the frequencies are either split between satellites, or the systems must coordinate another solution.
 - Should the FCC re-examine the applicability of 10° avoidance angle to NGSO FSS systems that involve very large numbers of satellites?
- How should the FCC address NGSO applications that have conflicting orbital parameters?

NGSO FSS Processing Rounds

- The FCC uses modified processing rounds to issue licenses for NGSO FSS systems.
- The FCC should consider whether processing rounds are the most efficient and expedient way to issue licenses for NGSO FSS systems.
 - Do processing rounds create unnecessary delay and encourage speculation?
 - Could changes be made to the processing rounds to make them more efficient?
 - What other approaches might be available as a replacement to processing rounds?

Milestone Completion

- The FCC currently requires that NGSO FSS system licensees launch their “complete constellation” in order to satisfy their milestones.
 - The purpose of the FCC’s milestone rules is to ensure spectrum and orbital positions are not left fallow and remain available for later applicants.
 - The satellite industry also benefits from regulatory certainty regarding when an NGSO FSS constellation is complete.
- The FCC should consider whether a different trigger or triggers would be appropriate for determining when an NGSO FSS licensee has satisfied its final milestone and can recover its performance bond.

NGSO FSS Geographic Coverage Rule

- The FCC maintains geographic coverage rules for NGSO FSS systems requiring:
 - continuous CONUS coverage with at least one satellite visible above 5°, and
 - service to non-CONUS locations north to 70° and south to 55° latitude for at least 75 percent of every 24-hour period, with at least one satellite visible above 5°.
- Is there any continuing need for the geographic coverage rules?
- Could the policy objectives underlying geographic requirements be met through other approaches?

Replacement Satellites

- The FCC maintains rules for Ku- and Ka-band NGSO FSS systems that require that all replacement satellites launched under the same license be technically identical to those in service, including the same frequency bands and orbital parameters, and may not cause a net increase in the number of operating satellites in the authorized orbital planes or in additional orbital plane(s).
 - A significant possibility exists that such restrictions impair technical innovation in the design of spacecraft throughout the deployment of the constellation.
 - Such technological innovation may enhance the NGSO FSS system's ability to utilize spectrum more efficiently and augment its interoperability.
- As an alternative, should the "technically identical" language be limited solely to changes that impact sharing and interference potential, such as the scope of frequency bands and orbital parameters?

ⁱ SIA is a U.S.-based trade association providing representation of the leading satellite operators, service providers, manufacturers, launch services providers, and ground equipment suppliers. Since its creation twenty years ago, SIA has advocated on behalf of the U.S. satellite industry on policy, regulatory, and legislative issues affecting the satellite business. SIA Executive Members include: The Boeing Company; DIRECTV LLC; EchoStar Corporation; Intelsat S.A.; Iridium Communications Inc.; Kratos Defense & Security Solutions; Ligado; Lockheed Martin Corporation; Northrop Grumman Corporation; SES Americom, Inc.; Space Exploration Technologies Corp.; SSL; and ViaSat, Inc. SIA Associate Members include: ABS US Corp.; Airbus DS SatCom Government, Inc.; Artel, LLC; Cisco; Comtech EF Data Corp.; DRS Technologies, Inc.; Eutelsat America Corp.; Global Eagle Entertainment; Glowlink Communications Technology, Inc.; Hughes; iDirect Government Technologies; Inmarsat, Inc.; Kymeta Corporation; Marshall Communications Corporation.; MTN Government; O3b Limited; Orbital ATK; OneWeb; Panasonic Avionics Corporation; TeleCommunication Systems, Inc.; Telesat Canada; TrustComm, Inc.; Ultisat, Inc.; Vencore Inc.; and XTAR, LLC.