

Communications and Information Technology Alerts

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FCC Sets Comment Deadlines for Satellite Orbital Debris Mitigation Rules

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Key Points

- The FCC's Report and Order and FNPRM on satellite orbital debris mitigation, previously adopted on April 23, 2020, were published in the Federal Register on August 25.
- This action now sets an **October 9, 2020 deadline for any comments on the FNPRM, with reply comments due by November 9, 2020**. Seven areas of proposed orbital debris mitigation rules remain open for the Commission's consideration in the FNPRM: (1) probability of accidental explosions; (2) total probability of collisions with large objects; (3) maneuverability above a certain altitude in LEO; (4) post-mission orbital lifetime; (5) casualty risk assessment; (6) indemnification; and (7) performance bonds for successful disposal.
- This action also sets a September 24 effective date for the FCC's changes to 47 C.F.R. 25.271(d) on securing satellite commands against unauthorized access and use, as well as 25.282(b) on operator-to-operator coordination for orbit raising maneuvers. Other amendments from the Report and Order await procedural approval by the Office of Management and Budget and will not take effect until after separate publication in the Federal Register.

On April 23, 2020, the Federal Communications Commission (FCC or "Commission") adopted new rules to modernize its existing framework for regulating the mitigation of satellite orbital debris, including new safety disclosure requirements for satellite applicants and an updated process for geostationary orbit satellite (GSO) license term extension requests. In connection with these rule updates, the Commission also issued a Further Notice of Proposed Rulemaking (FNPRM) seeking comment on a number of additional proposed revisions to the rules. These documents, which represent the first update to the Commission's orbital debris rules since they were first adopted in 2004, were published in the Federal Register on August 25, along with an announcement that comments on the FNPRM will be due on October 9, with replies due on November 9. This alert discusses the background of the rulemaking, and provides an overview of the new and proposed amendments to the Commission's orbital debris mitigation rules.

Summary of the FCC's Orbital Debris Mitigation Rulemaking

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Since the Commission first adopted rules for regulating satellite orbital debris mitigation in 2004, there have been significant changes in satellite technologies and market conditions, particularly in the low earth orbit (LEO) region of space. These changes—which include the increasing use of lower-cost small satellites and the planned deployment of many new large non-geostationary orbit (NGSO) constellations—have dramatically increased the number of satellites in orbit, a trend that is expected to continue in coming years.

While these new satellites will provide a range of critical and innovative services to customers around the world, they have also given rise to increased concern about the mitigation of orbital debris, which can pose risks to satellites and inhabitable spacecraft, and, in some instances, to persons and property on the surface of the earth. To address these issues, the Commission initiated a proceeding to update its orbital debris mitigation rules in November 2018, seeking comment on a number of proposed amendments to its existing rules. The Commission received approximately 66 comments in response to the initial Notice of Proposed Rulemaking. On April 23, 2020, the Commission issued a Report and Order adopting some of the proposed changes, along with the FNPRM, which seeks input on a number of additional proposals.

The rule updates adopted on April 23 are primarily intended to improve the “specificity and clarity” of the Commission’s disclosure requirements for satellite applicants, particularly with regard to applicants’ debris mitigation plans. The new rules incorporate quantifiable metrics for assessing the probability that certain events will occur with respect to a given spacecraft, including the risk of collisions, the probability of successful post-mission disposal and the casualty risk associated with satellites that will re-enter the earth’s atmosphere. Satellite applicants will be required to calculate and disclose these statistics in connection with their license applications. Additionally, the new rules will impose new disclosure requirements related to the protection of inhabitable spacecraft, spacecraft maneuverability, the use of deployment devices, the release of persistent liquids, proximity operations, trackability and identification, and information sharing for situational awareness. Finally, the new rules contain updates to the application process for GSO satellite license term extensions, and limits the term of such extensions to five-year increments.

Debris Mitigation Topics Still Open for Comment

The FNPRM proposes additional changes to the Commission’s orbital debris rules, including the following:

- Whether the Commission should include a numerical metric for assessing the probability of accidental explosions during and after the completion of mission operations.
- How the Commission should review the collision risks associated with multi-satellite systems, and specifically, whether it should consider collision risks on a system-wide or aggregate basis.
- Whether the Commission should adopt a requirement that all NGSO satellites planning to operate above a certain altitude in the LEO region should have the capability to maneuver sufficient to conduct collision avoidance during the time when the spacecraft are located above the specified altitude.
- Whether the 25-year benchmark for completion of NGSO post-mission disposal by atmospheric re-entry remains a relevant benchmark, as applied to commercial or other non-federal systems.

- Whether the Commission should adopt additional rule revisions concerning strategies to lower the risk of human casualty from spacecraft disposed of by re-entry into the earth's atmosphere.
- Whether the Commission should require space station licensees to indemnify the United States government against any costs associated with claims brought against the United States related to the authorized facilities under international law.
- Whether the Commission should adopt a bond requirement for GSO and NGSO orbit space stations associated with successful post-mission disposal.

As noted above, comments on these proposals are due by October 9, and reply comments are due by November 9.

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