wiley

ALERT

FAA Seeks Comment on Proposed Orbital Debris Rulemaking

October 2, 2023

As commercial launch assets in space continually increase, the Federal Aviation Administration (FAA) released a Notice of Proposed Rulemaking (NPRM) seeking comment on new rules regarding their disposal. Comments are due December 26, 2023, and a full summary of the NPRM follows.

***

Revisions to the Definition of "Disposal" in Section 401.7**.** Section 401.7 of the FAA's rules defines "disposal" as "the return or attempt to return, purposefully, a launch vehicle stage or component, not including a reentry vehicle, from Earth orbit to Earth, in a controlled manner." The NPRM proposes to expand the methods of disposal covered under this section, and revises the definition to be "the execution or attempt to execute 'controlled atmospheric disposal, heliocentric disposal, uncontrolled atmospheric disposal, disposal orbit, or direct retrieval of launch vehicle stages or components of launch or reentry vehicles under part 453 of this chapter.'"

5mm Threshold Size to Qualify as Orbital Debris. The NPRM recommends defining orbital debris as "all human-generated debris in Earth orbit that is greater than 5 mm in any dimension . . . [which] includes, but is not limited to, payloads that can no longer serve a useful purpose, rocket bodies and other hardware (*e.g.*, bolt fragments and covers) left in orbit as a result of normal launch and operational activities, and fragmentation debris produced by failure or collision." The FAA has declined to include released gases or liquids in a free state, and solid rocket motor slag from the definition because the risk of accidental explosion from unvented propellant or pressurant outweighs the risks posed by the release of these

Authors

Henry Gola
Partner
202.719.7561
hgola@wiley.law

Jennifer D. Hindin
Partner
202.719.4975
jhindin@wiley.law

Jillian M. Quigley
Associate
202.719.4668
jquigley@wiley.law

Practice Areas

Space and Satellite

Telecom, Media & Technology

materials.

Other New Definitions in Part 401**.** The FAA proposes to add definitions for Low Earth Orbit, Medium Earth Orbit, Geostationary Earth Orbit, Geosynchronous Orbit, and Object-Time to Section 401.7.

Orbital Debris Assessment Plans. The FAA proposes to require "that operators licensed or permitted under parts 415, 417, 431, 435, 437, or 450, to perform a launch or reentry with a planned altitude greater than 150 km submit an Orbital Debris Assessment Plan (ODAP)—including physical evidence, test results, and analyses to demonstrate removal activities—prior to each operation."

Post-Launch Debris Disposal Timelines. The NPRM proposes to require any debris greater than 5 mm in size that is released during launch, reentry, or disposal operations The NPRM proposes that "if debris— including spent upper stages and other components—is released during launch or reentry, during on-orbit aspects of launch or reentry, or during disposal operations, any pieces greater than 5 mm in size must be removed from highly-used regions of LEO and within 25 years."

Specifically, the FAA proposes to require that operators, within specific timeframes, dispose of "all launch vehicle stages or jettisoned components" in one of several ways:

- Controlled Atmospheric Disposal - Within 30 days of mission completion.
- Heliocentric, Earth-escape Disposal – Within 30 days of mission completion.
- Direct Retrieval - Not to exceed 5 years post mission completion.
- Uncontrolled Atmospheric Disposal - Not to exceed 25 years after launch.
- Highly Eccentric Long-Term Disposal - Not to exceed 200 years after mission completion.
- Disposal Orbit - Within 30 days of mission completion into a perpetual disposal orbit

A launch or reentry subject to these rules would be required to identify the chosen disposal method in the ODAP and satisfy the regulatory requirements applicable to that disposal method. Upper stages in orbits with an expected lifetime below 25 years would have no additional required actions to meet the post-mission 25-year rule, but "these upper stages may be required to move to disposal orbits if they cannot be safely deorbited due to excessive risk in uncontrolled reentries." In addition, operators would be required to report non-nominal launches and debris-creating anomalies to the FAA.

Additional Space Safety Rules. Finally, the NPRM proposes changes to its requirements regarding explosion mitigation, collision mitigation between launched objects, launch and reentry collision avoidance, and real-time reporting of orbital safety hazards.

***

For more information about the NPRM, please contact any of the authors listed on this alert.