FCC 5-Year Post-Mission Disposal Rule (47 CFR § 25.283(e)): Mechanics & Spacecraft Requirements

Pillar: Disposal Regime | **Basis:** Federal Regulation (47 CFR § 25.283(e)) | **Primary Source:** FCC Space Bureau / eCFR | **As Of:** Effective Sept 9, 2024; Compliance Sept 29, 2024

Under 47 CFR § 25.283(e), space stations ending missions in or passing through Low Earth Orbit below 2,000 km must complete atmospheric reentry as soon as practicable and no later than 5 years after end of mission—replacing the legacy 25-year guideline.

Documented Instrument & Engineering Record

• Altitude scope: Applies to all U.S.-licensed satellites (Part 25) and non-U.S. satellites seeking U.S. market access whose missions end in or pass through LEO below 2,000 km.

• End-of-mission (EOM) trigger: For spacecraft with propulsion and collision avoidance, EOM occurs when the satellite can no longer conduct collision-avoidance maneuvers; for non-maneuverable spacecraft, EOM is completion of the primary mission.

• Grandfathering boundary: Satellites already in orbit prior to the September 29, 2024 compliance date (and certain grandfathered authorizations) remain under prior license terms unless modified.

• Angle split with Batch 5: Batch 5 Post #1960 establishes that the rule is LIVE; this brief details the engineering triggers, EOM definition, and waiver/licensing mechanics required of mission designers.

47 CFR § 25.283(e) Instrument Parameters

Parameter	Instrument Requirement	Engineering Impact
Altitude Scope	LEO region below 2,000 km	Covers nearly all WA constellation & EO orbits
Disposal Deadline	As soon as practicable; <= 5 years post-EOM	Forces propulsion or <=500 km deployment
EOM Trigger (Propulsive)	Loss of collision-avoidance capability	Requires reserved EOL propellant before depletion
EOM Trigger (Non-Propulsive)	Completion of primary mission	Passive drag must decay orbit within 5 years
Jurisdictional Reach	U.S. Part 25 + non-U.S. market access	Binds foreign operators serving U.S. customers

Mission Designer, Compliance Lead & Founder Takeaways

• Mission designers cannot treat 5 years as a passive-drag guarantee above ~500–600 km; solar-cycle minima can push unpropelled decay past 5 years.

• Compliance leads must align FCC Orbital Debris Mitigation Plan (ODMP) disclosures with propellant-reserve telemetry and EOM triggers.

• WA constellation operators (SpaceX Redmond, Amazon Leo, BlackSky) and servicing providers (Starfish Space) design directly around this 5-year ceiling.

Cross-Cluster Links & Primary Sources

• **Batch 5 Verdict: FCC 5-Year Deorbit Rule (LIVE):** https://bcesg.org/wa-space-rule-fcc-5-year-deorbit-live/

• **WA Space Cluster Hub:** https://bcesg.org/washington-space-cluster-census/

• **Amazon Leo (Redmond) Census Profile:** https://bcesg.org/amazon-leo-washington-space-cluster-profile/

• **SpaceX Redmond Census Profile:** https://bcesg.org/spacex-redmond-washington-space-cluster-profile/

• **eCFR: 47 CFR § 25.283 (Space Station End-of-Life Disposal):** https://www.ecfr.gov/current/title-47/chapter-I/subchapter-B/part-25/subpart-D/section-25.283

• **NASA ODPO: Orbital Debris Mitigation Overview:** https://orbitaldebris.jsc.nasa.gov/mitigation/

Provenance Note: Primary-source check against 47 CFR § 25.283(e) (eCFR) as of 2026-11-16; distinct from Batch 5 status verdict #1960.