Mission Designer's End-of-Life Compliance Checklist: FCC, NASA ODAR, FAA Part 450 & WA Servicing

Pillar: Measurement & ESG Gap | **Basis:** Unified Binding Instruments (Nov 2026) | **Primary Source:** FCC / NASA / FAA / NOAA | **As Of:** As of Nov 2026

A unified end-of-life engineering and licensing checklist for mission designers, compliance leads, and founders—mapping every spacecraft gate across FCC 47 CFR § 25.283(e), NASA-STD-8719.14C ODARs, FAA Part 450, NOAA Part 960, and WA servicing contingencies.

Documented Instrument & Engineering Record

• Gate 1 (PDR — Orbit & Propellant): Confirm whether deployment altitude decays passively in <= 5 years under conservative solar flux, or lock in dedicated EOL deorbit delta-v + tank-gauging margin.

• Gate 2 (CDR — Passivation): Design latch-open propellant/pressurant vents and permanent battery-to-array disconnect relays to keep accidental breakup probability < 0.001.

• Gate 3 (CDR/FRR — Demisability): Run DAS and ORSAT on all dense components (titanium, steel, optics) to verify Ec < 1:10,000 for > 15 J fragments—or budget controlled SPOUA reentry.

• Gate 4 (Licensing — Multi-Agency): Align FCC Part 25 ODMP, NASA contract ODAR/EOMP (if NASA-funded/hosted), FAA Part 450 upper-stage COLA, and NOAA Part 960 (if Earth-observing).

End-of-Life Compliance Checklist by Mission Phase

Phase	Required Engineering / Filing Action	Binding Instrument
Preliminary Design (PDR)	5-yr decay / EOL propellant & Preliminary ODAR	FCC § 25.283(e) / NPR 8715.6B
Critical Design (CDR)	Passivation hardware + ORSAT demisability run	NASA-STD-8719.14C
Pre-Launch Licensing	File FCC ODMP + NOAA Part 960 + FAA Part 450	47 CFR 25 / 15 CFR 960 / 14 CFR 450
End of Mission (EOM)	Deorbit burn before COLA loss + vent/discharge	FCC ODMP / EOMP

Mission Designer, Compliance Lead & Founder Takeaways

• Keep one single source of truth for component masses, materials, and tank volumes across FCC ODMP and NASA ODAR submissions.

• Treat WA servicing providers (Starfish Space Otter) and OTVs (Portal Space Supernova) as contingency/roadmap options—never as an excuse to skip onboard passivation.

• For corporate ESG inquiries, pair terrestrial GHG Protocol Scope 1–3 disclosures with this licensing checklist while noting no space-specific ESG standard exists.

Cross-Cluster Links & Primary Sources

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

• **FCC 5-Year Disposal Rule Mechanics:** https://bcesg.org/wa-space-orbital-fcc-5-year-rule-mechanics/

• **NASA ODAR Contract Deliverable Guide:** https://bcesg.org/wa-space-orbital-nasa-odar-contract-deliverable/

• **No Space-Specific Scope 3 / ESG Standard Gap:** https://bcesg.org/wa-space-orbital-no-scope-3-esg-standard-gap/

• **eCFR: 47 CFR § 25.283:** https://www.ecfr.gov/current/title-47/chapter-I/subchapter-B/part-25/subpart-D/section-25.283

• **NASA Standards: NASA-STD-8719.14:** https://standards.nasa.gov/standard/nasa/nasa-std-871914

• **eCFR: 14 CFR Part 450:** https://www.ecfr.gov/current/title-14/chapter-III/subchapter-C/part-450

Provenance Note: Synthesizes FCC, NASA, FAA, and NOAA requirements verified as of 2026-11-16.