Orbital Disposal & ODAR Readiness: FCC 5-Year, NASA-STD-8719.14C & Passivation

Pillar: Valley & Orbital Readiness | **Basis:** Batch 5 Rules & Batch 9 Disposal Regime | **Primary Source:** FCC (47 CFR 25.283(e)) / NASA ODPO | **As Of:** 2026-11-16

Pre-CDR spacecraft readiness combines Batch 5's live regulatory verdicts with Batch 9's engineering mechanics: FCC 47 CFR § 25.283(e) 5-year LEO disposal, NASA-STD-8719.14C ODAR/EOMP contract deliverables, stored-energy passivation, and reentry casualty limits.

Readiness Checklist & Corpus Traceability

• **Lock 5-Year Post-EOM Decay/Deorbit:** Size orbit altitude or propulsion to clear LEO (<2,000 km) within 5 years per FCC 5-Year Deorbit (LIVE) and FCC 5-Year Rule Mechanics.

• **Deliver ODAR & EOMP at PDR/CDR:** Run NASA DAS / ORSAT as contract deliverables (not federal regulations) per NASA ODAR Contract Deliverable and NASA ODAR Rule Status.

• **Verify Stored-Energy Passivation:** Design battery, pressure-vessel, and propellant venting for `<0.001` explosion probability per Spacecraft Passivation.

• **Model Reentry Casualty Risk (<1:10,000):** Validate >15 J fragment demisability or controlled SPOUA reentry per Casualty Risk & Demisability.

• **Protect EOL Propellant Margin:** Ring-fence deorbit delta-v reserves and solar-cycle drag assumptions per EOL Propellant Margin and Solar-Cycle Drag Limits.

Mission Designer Disposal & ODAR Checklist

Gate / Metric	Required Threshold	Corpus Source
47 CFR 25.283(e)	LEO (<2,000 km) disposal <= 5 yrs post-EOM	#2304 FCC 5-Yr
NASA-STD-8719.14C	PDR/CDR ODAR & EOMP via DAS/ORSAT	#2307 NASA ODAR
Passivation	Explosion probability < 0.001 at EOM	#2310 Passivation
Casualty Risk (Ec)	< 1:10,000 for uncontrolled reentry	#2313 Demisability
Master EOL Check	Full spacecraft/prime flow-down sign-off	#2367 EOL Checklist

Operator Execution & Boundary Notes

• Assign ownership to the Program Manager (Program: FAA, NEPA, FCC & ODAR) and check prime flow-downs (FCC 5-Yr EPD Flowdown).

• Do not treat `NASA-STD-8719.14C` as a federal statute—it binds via NASA/DoD contract deliverables.

• Run solar-cycle sensitivity checks on passive-decay orbits above ~500 km before freezing bus mass.

Corpus Source Pieces & Primary Authorities

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

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

• **Spacecraft & Upper-Stage Passivation:** https://bcesg.org/wa-space-orbital-passivation-stored-energy/

• **Reentry Casualty Risk & Demisability:** https://bcesg.org/wa-space-orbital-casualty-risk-demisability/

• **Mission Designer EOL Checklist:** https://bcesg.org/wa-space-orbital-eol-design-checklist-wa/

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

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

Provenance Note: Synthesized from BC ESG Batch 5 (#1960, #1963), Batch 4 (#1897), Batch 6 (#2082), and Batch 9 (#2304–#2313, #2349, #2358, #2367).