BlackSky (Tukwila): Earth-Observation Constellation Operations Under FCC 5-Year & NOAA Part 960

Pillar: Constellation Scale | **Basis:** FCC / NOAA Licensing & Census Record | **Primary Source:** BlackSky / FCC / NOAA | **As Of:** As of Nov 2026

Tukwila-based BlackSky operates an Earth-observation LEO constellation governed simultaneously by NOAA 15 CFR Part 960 (imaging/data) and FCC 47 CFR § 25.283(e) (5-year post-mission disposal and ODMP compliance).

Documented Instrument & Engineering Record

• Tukwila EO operator: BlackSky maintains its Seattle South / Tukwila, WA facility (12501 E Marginal Wy S), operating high-revisit optical imaging satellites in LEO.

• Dual-agency licensing: BlackSky satellites require NOAA 15 CFR Part 960 authorization for commercial Earth imaging and FCC Part 25 authorization for RF downlinks and orbital debris mitigation.

• Optical payload demisability challenge: Earth-observation telescopes contain dense optical assemblies (mirrors, mounts, star trackers) that require careful ORSAT thermal modeling to stay under the 1:10,000 casualty threshold.

• Replenishment cadence: As Gen-3 satellites replace legacy units, each new authorization after September 29, 2024 is bound by the 5-year post-mission disposal ceiling.

EO Constellation Sustainability Controls (BlackSky Profile)

Compliance Domain	Agency / Rule	EO-Specific Engineering Focus
5-Year Post-Mission Decay	FCC 47 CFR § 25.283(e)	Low-LEO altitude + propulsion/drag sizing
Optical Telescope Demise	FCC ODMP / NASA-STD-8719.14C	Mirror & mount material survivability (<15 J)
Remote-Sensing Clearance	NOAA 15 CFR Part 960	Relies on FCC ODMP; enforces license conditions
Conjunction Screening	18th SDS / Space-Track	Maneuver planning across mid-inclination shells

Mission Designer, Compliance Lead & Founder Takeaways

• Earth-observation operators face a tighter mass budget than broadband mega-constellations, making telescope demisability a critical early-design check.

• NOAA's reliance on FCC ODMP reviews means any FCC orbital-debris deficiency can jeopardize remote-sensing license standing.

• Operating in lower LEO shells improves imaging resolution while simultaneously shortening passive atmospheric decay time.

Cross-Cluster Links & Primary Sources

• **BlackSky (Tukwila) Census Profile:** https://bcesg.org/blacksky-washington-space-cluster-profile/

• **NOAA Part 960 & FCC Debris Handoff:** https://bcesg.org/wa-space-orbital-noaa-part-960-handoff/

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

• **BlackSky Official Site:** https://blacksky.com/

• **eCFR: 15 CFR Part 960:** https://www.ecfr.gov/current/title-15/subtitle-B/chapter-IX/subchapter-D/part-960

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

Provenance Note: BlackSky Tukwila facility verified against Step 0 Census; regulatory mechanics verified against 15 CFR Part 960 and 47 CFR § 25.283 as of 2026-11-16.