Regulatory Insight Series

AlarisPro Thought Leadership Brief

BVLOS
BEYOND VISUAL LINE OF SIGHT

Navigating the BVLOS Revolution:

Preparing for FAA Part 108

Actionable strategies for operators and manufacturers to achieve BVLOS readiness through data-driven safety, digital twin intelligence, and compliance.

The intelligence behind safe, scalable UAS operations.

About this Publication: This Regulatory Insight is part of AlarisPro's ongoing initiative to support UAS ecosystem readiness for the FAA's forthcoming Part 108 BVLOS rule. Drawing from operational data, regulatory trends, and digital twin analytics, this paper equips industry leaders with the tools to align with performance-based safety standards and accelerate certification.

AlarisPro is the industry leader in UAS fleet management, digital twin technology, and safety compliance. Empowering operators, OEMs, and regulators through data-driven readiness for FAA Part 108 and beyond.

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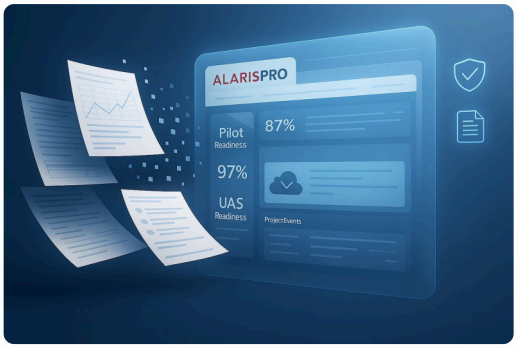
Introduction: The Dawn of Routine BVLOS Operations

On August 7, 2025, the FAA published the long-awaited **Notice of Proposed Rulemaking (NPRM)** for Part 108, marking a watershed moment in unmanned aviation. This historic regulation normalizes Beyond Visual Line of Sight (BVLOS) UAS operations, shifting from an unpredictable waiver-based system to a performance-based, scalable regulatory framework designed for low-altitude UAS flights.



This transformative rule aligns with the 2024 FAA Reauthorization Act and the June 2025 Executive Order *"Unleashing American Drone Dominance."* The objective is clear: provide a predictable, transparent pathway that enables commercial UAS operations across diverse sectors including package delivery, precision agriculture, infrastructure surveying, and public safety missions.

August 7, 2025

FAA & TSA jointly publish Part 108 NPRM

Paradigm Shift

From waiver-based to performance-based framework

Clear Pathway

Predictable route for commercial drone operations

The opportunity is clear: those who prepare now with auditable safety cases and data-driven reliability evidence will achieve faster approvals and market leadership.

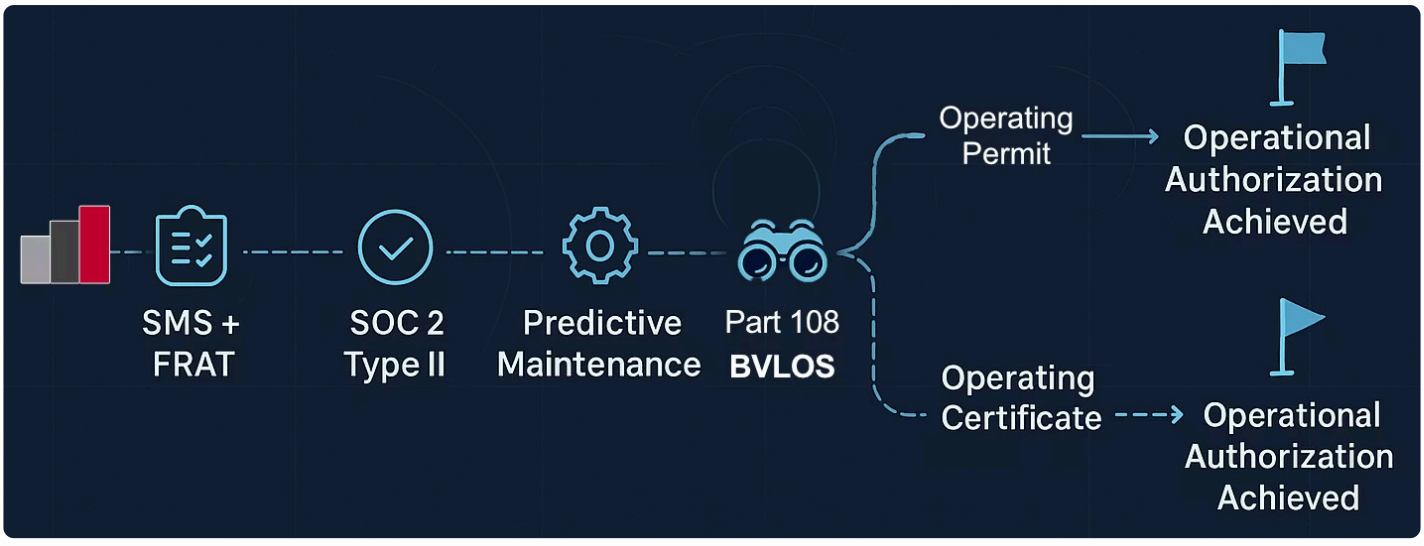
Part 108 Overview: Scope and Regulatory Architecture

Part 108 applies specifically to BVLOS UAS operations below 400 feet Above Ground Level (AGL), carefully excluding manned aircraft transport and recreational flights already covered under Part 107. The regulation introduces a sophisticated, **two-tiered operator authorization system** designed to match regulatory requirements with operational risk profiles.

1	2
Operating Permits	**Operating Certificates**
Designed for lower-risk, smaller-scale operations such as package delivery (≤55 lbs), agricultural missions, training, civic/public safety, and lower density BVLOS. Simplified applications and minimal required documentation mean a streamlined approval process and reduced FAA oversight for routine commercial activities.	Required for higher-risk, larger-scale, or complex operations including larger fleets and flights over densely populated areas, large-scale delivery, and multi-aircraft coordination). This pathway requires more comprehensive oversight, a formal SMS, more documentation requirements, and recurring FAA surveillance.

AlarisPro: Your Intuitive Compliance Map to BVLOS Readiness

From SMS and FRAT through Digital Twin intelligence and Part 108 compliance, AlarisPro guides every step toward safe, scalable UAS operations.



Airworthiness Acceptance: A New Paradigm

Part 108 revolutionizes the airworthiness process by replacing traditional FAA Type Certification with a flexible, **performance-based airworthiness acceptance process**. The new process is anchored in **industry consensus standards** such as collision avoidance, cybersecurity, propulsion, data recording, and more. This move away from type certification is due to rapid design cycles, short UAS lifespans, and absence of onboard crew. This paradigm shift accelerates innovation while maintaining robust safety standards.

Declaration of Compliance

Manufacturers submit declarations of Compliance (DOC) with QA systems, change protocols, and continued safety programs, confirming adherence to FAA-accepted industry consensus standards

Faster Certification Cycles

Enables rapid approval by focusing on safety outcomes rather than prescriptive design mandates, positioning the United States as a global leader in unmanned aviation innovation.

Encourages Innovation

Performance-based approach supports scalability and diversity of UAS platforms and emerging technologies

Key Benefits

- Reduced regulatory burden on manufacturers
- Accelerated time-to-market for new platforms
- Support for platform diversity and innovation
- Scalability from small drones to heavier aircraft

> *Organizations that begin building their Safety Management Systems and training programs now will have a significant competitive advantage when the final rule takes effect in 2026.*

A critical innovation is the shift to an **organizational accountability model**, replacing individual remote pilot certification with operator responsibility for personnel qualifications.

This introduces the new role of **Flight Coordinator**, a position overseeing autonomous operations that doesn't require traditional IFR certification, recognizing the unique nature of unmanned flight operations.

Nuances That Matter for Implementation

Permit vs. Certificate Strategy

Many teams scale faster by sequencing: start with a targeted Operating Permit, then move to a Certificate as automation and reliability mature. Build your data architecture now to support the evidentiary needs of both pathways.

Security & Privacy Readiness

TSA/FAA elements elevate security and data governance. Strengthen access control, incident escalation, data-retention rules, and encryption so your policies stand up to inspection.

Manufacturer Obligations

OEM standards, published limits, and configuration controls will increasingly drive operator approvals. Expect stricter config management, bulletin/alert workflows, and serial-number traceability to prove continued airworthiness under 108.

ROC Accountability

Part 108 shifts more responsibility to the Remote Operations Center: separation, lighting/Remote ID, reporting, and procedural compliance. Training, automation guardrails, and event reporting must be auditable and repeatable.

Right-of-Way & Strategic Deconfliction

Operators must explicitly maintain separation from crewed aircraft and other UAS, supported by UTM and third-party services. Your CONOPS should define detect-and-avoid methods, deconfliction procedures, required NOTAMs/authorizations, and contingency behaviors.

A Practical Blueprint for Part 108 Readiness

Successfully navigating Part 108 requires proactive planning and strategic investment across multiple operational dimensions. Organizations must move beyond compliance checklists to build comprehensive operational frameworks that enable sustainable BVLOS operations.

The following blueprint combines near-term actions with strategic planning in a phased approach to ensure your team is prepared to transition smoothly when Part 108 is finalized:

Phase 1: Foundation & Governance (Weeks 1–4)

- **Pathway Definition:** Map your operations to Permit vs. Certificate pathways and establish when to scale up.
- **Program Governance:** Identify key roles and outline reporting lines and accountability.
- **Configuration Baseline:** Align with OEM standards and lock serial-level configuration controls.

Phase 2: Safety, Security & Operational Controls (Weeks 5–8)

- **SMS & FRAT Integration:** Build or refine your SMS and risk assessment tools for BVLOS hazards.
- **DAA/UTM Strategy:** Define your detect-and-avoid and deconfliction method.
- **Security Architecture:** Establish access controls, incident protocols, and data-handling standards.

Phase 3: Data, Telemetry & Training (Weeks 6–10)

- **Remote ID & Lighting Compliance:** Verify equipment and ensure broadcast and logging functions meet compliance requirements.
- **Telemetry Infrastructure:** Centralize flight and maintenance data with aviation-grade logs.
- **Training Curricula:** Build pathway-specific training and schedule recurrent proficiency checks.

Phase 4: Digital Twin Integration & Reliability Evidence (Weeks 8–12)

- **Digital Twin Instantiation:** Stand up digital twins for each UAS model and sync component health data.
- **Reliability Dossier:** Compile MTBF/MTBUR, degradation trends, and spares forecasts.
- **Scenario Simulations:** Use digital twin data to model envelopes, validate contingencies, and assess population density impacts.

Phase 5: Safety Case & Pre-Certification Readiness (Weeks 10–12)

- **Safety Case Build:** Assemble CONOPS, SMS records, training logs, maintenance history, and configuration control artifacts.
- **Internal Validation:** Conduct a tabletop exercise to test responses and refine SOPs.
- **Readiness Review:** Package documentation for streamlined FAA engagement and faster transition to approvals.

Cross-Regulatory Alignment: Part 108, Part 135, and SOC 2 Type II

While Part 108 focuses on BVLOS, your program will benefit from Part 135-style maintenance rigor and SOC 2 Type II controls for data handling and change management. AlarisPro's consolidated safety, maintenance, documents, and access controls provide a strong baseline to map across these frameworks, reducing audit friction and improving trust with regulators, OEMs, and insurers.

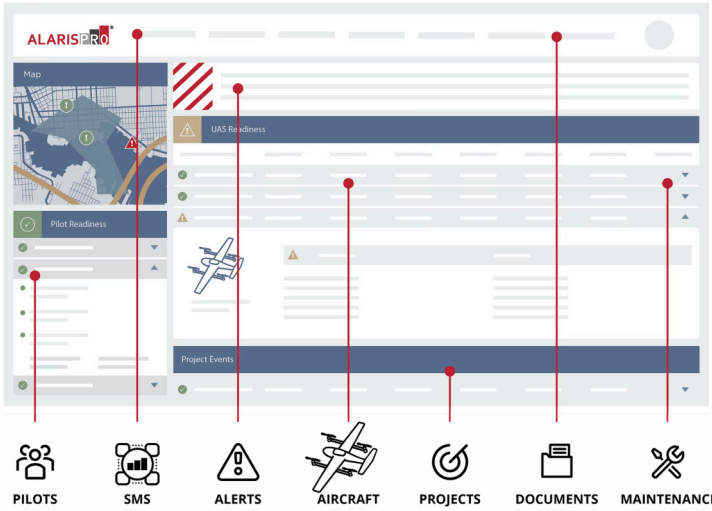
A FOCUSED 10-POINT CHECKLIST

1. Map CONOPS to Permit vs. Certificate and define scale thresholds.
2. Lock OEM consensus-standards conformance and configuration baselines.
3. Stand up SMS + FRAT tailored to BVLOS hazards and mitigations.
4. Document DAA/UTM strategy (services, sensors, procedures).
5. Verify Remote ID & lighting equipage and logging.
6. Implement security controls and reporting workflows per FAA/TSA.
7. Centralize telemetry & maintenance in aviation-grade logs.
8. Deploy Digital Twins for each model; track component health and trends.
9. Build a reliability dossier (MTBF/MTBUR, alerts closure, spares forecasts).
10. Assemble Operational Safety Case; schedule internal tabletop before filing.

The window between now and final rule implementation represents a critical opportunity for organizations to establish competitive advantages through early preparation and strategic investment.

Conclusion: Embracing the Future of Scalable, Safe BVLOS Operations with AlarisPro

The Part 108 NPRM ushers in a transformative era for unmanned aviation, enabling routine, scalable BVLOS UAS operations through a flexible, risk-based regulatory framework. This is not merely a regulatory update, it represents a fundamental reimagining of how unmanned aircraft integrate into our national airspace system. Teams that operationalize component-level data, predictive maintenance, and auditable safety processes will reach scale first. AlarisPro's Digital Twin, SMS/FRAT, configuration & spares control, and industry reliability intelligence give operators and OEMs a certification-ready foundation to move from waivers to routine BVLOS operations with confidence.



AlarisPro Capabilities:

Operator platform: SMS/FRAT, aviation-grade maintenance logs, spares locker, documents, weather, predictive maintenance, ASE® reliability signals.

Manufacturer platform: Configuration manager, fleet visibility, bulletins/alerts, component tracking, post-sale data transfer.

Your Data is Your Safety Case - Turn it into a competitive edge.

AlarisPro equips you with the tools, insights, and documentation FAA regulators expect, long before certification is required.

www.AlarisPro.com

Contact Us – AlarisPro

Seeing is believing! Contact us today to schedule a Regulatory Readiness Assessment with our compliance team, or a no obligation live demo of our platform.

FAA Federal Register NPRM (Aug 7, 2025): "Normalizing UAS BVLOS Operations." | FAA BVLOS Fact Sheet (Equipage, consensus standards, ops requirements). | Legal/industry analysis of Permit vs. Certificate concept in the NPRM. | DOT Privacy Impact Assessment for BVLOS NPRM (data handling/retention).