COMMENTS OF THE ASSOCIATION FOR UNCREWED VEHICLE SYSTEMS INTERNATIONAL (AUVSI)

Reopening of Comment Period
Normalizing Unmanned Aircraft Systems Beyond Visual Line of Sight Operations
Docket No. FAA-2025-1908 | Notice No. 25-07B | RIN 2120-AL82
14 CFR Parts 36, 43, 45, 48, 89, 91, 107, 108, 119, 133, 135, 137, and 146

I. Introduction and Context

The Association for Uncrewed Vehicle Systems International (AUVSI) submits these comments in response to the FAA's reopening of the comment period on limited issues related to electronic conspicuity and right-of-way. This submission builds on and should be read in conjunction with AUVSI's October 6, 2025, comments in this docket.

In those comments, AUVSI supported modernizing right-of-way rules to incentivize broader equipage in low-altitude airspace and endorsed cooperative electronic conspicuity as a foundation for scalable detect-and-avoid. The FAA's reopened questions appropriately focus on how electronic conspicuity can support these goals in a performance-based and technologically flexible manner.

AUVSI's members represent a wide range of operational profiles and technical approaches, reflecting diverse use cases and operating environments across the National Airspace System (NAS). Through this diversity, AUVSI notes that ADS-B-derived electronic conspicuity represents the most mature, interoperable, and immediately deployable baseline for supporting equipage incentives and right-of-way modernization in low-altitude airspace.

The comments below respond directly to the specific questions identified by the FAA in the reopening notice, particularly Questions 1 through 7 related to electronic conspicuity, performance standards, and alternative methods of electronic detectability. AUVSI offers these comments to clarify how performance-based approaches can support right-of-way modernization and scalable detect-and-avoid.

II. Availability of Alternate Electronic Conspicuity Solutions

AUVSI previously supported FAA authorization of electronic conspicuity solutions beyond certified ADS-B Out, including affordable and scalable alternatives for crewed aircraft operating below 500 feet AGL. The association continues to support this approach.

Electronic conspicuity solutions exist today, with ADS-B and ADS-B-derived electronic conspicuity representing the most mature, interoperable, and immediately deployable approach for supporting air-to-air detect-and-avoid in low-altitude environments. ADS-B-

derived electronic conspicuity leverages protected aviation spectrum, established message structures, and widely deployed receiver ecosystem, providing a clear and practical path toward near-universal electronic visibility of crewed aircraft.

From an operational perspective, establishing a single, interoperable electronic conspicuity baseline is critical to ensuring predictable right-of-way behavior and manageable detect-and-avoid responsibilities for Part 108 operators. Allowing multiple, non-interoperable electronic conspicuity approaches would increase system complexity and create uncertainty regarding right-of-way obligations. For this reason, AUVSI supports a single interoperable electronic conspicuity baseline for cooperative traffic in low-altitude airspace, centered on ADS-B-derived solutions.

Low-altitude airspace routinely includes a mix of equipped and unequipped crewed aircraft, including general aviation airplanes, helicopters, agricultural aircraft, and public safety operations. Establishing an interoperable ADS-B-derived electronic conspicuity baseline for cooperative traffic is therefore critical. At the same time, operators should retain flexibility to employ procedural mitigations or other acceptable detect-and-avoid contributors, as appropriate to their operational risk environment.

AUVSI reiterates that alternate electronic conspicuity solutions should not indirectly impose airworthiness requirements that would exclude the small UAS platforms currently operating safely under Part 107 waivers.

III. Benefits Beyond ADS-B Out

Electronic conspicuity should be evaluated based on its ability to support cooperative conflict management, not solely on equivalence to legacy broadcast architectures.

Benefits beyond ADS-B Out may include:

- Enhanced awareness of non-cooperative or unequipped aircraft
- Fleet-level safety services that reduce duplication of onboard sensors
- Reduced size, weight, power, and cost burdens for both crewed and uncrewed aircraft
- Direct integration with automated detect-and-avoid functions rather than advisory-only awareness
- Improved efficiency of airspace usage through performance-based separation and traffic management, enabling higher traffic density where safety objectives are met

Members also note that alternate EC architectures may improve operational privacy, reduce over-the-air broadcast clutter in dense environments, and provide better resilience to interference compared to legacy ADS-B Out.

IV. Market Readiness and Deployment Considerations

AUVSI previously cautioned against equipage mandates that outpace practical deployment. The effectiveness of right-of-way driven incentives depends on the availability of scalable compliance pathways.

Portable, low-cost, and battery-powered electronic conspicuity solutions, particularly those from ADS-B-derived architectures, offer a clear path to near-term deployment without requiring aircraft redesign or extended certification timelines.

As the FAA implements Part 146, detect-and-avoid functions are increasingly expected to be supported through shared services and standardized data interfaces. Electronic conspicuity solutions that can integrate with these frameworks where appropriate may further support scalable BVLOS operations, without being a prerequisite for compliance.

V. Performance Standards and Applicability of ADS-B Requirements

Applying ADS-B Out performance standards wholesale to alternate electronic conspicuity solutions would be inconsistent with the performance-based framework AUVSI supported in its prior comments.

FAA should instead focus on outcome-based criteria such as accuracy, latency, integrity, and availability. This distinction is particularly important where alternate electronic conspicuity solutions are intended to support detect-and-avoid outcomes rather than air traffic control surveillance functions.

ADS-B-derived electronic conspicuity provides a well understood performance reference for these outcomes, without importing full certification, installation, or surveillance requirements of §91.227.

VI. Appropriate Standards and Means of Compliance

The right-of-way construct proposed under Part 108 depends on a high degree of interoperability to function safely and predictably. In particular, Part 108 UAS operators must be able to reliably detect and identify crewed aircraft that are entitled to right-of-way without being required to integrate, interpret, or validate multiple incompatible electronic conspicuity technologies.

Allowing multiple, non-interoperable alternate electronic conspicuity standards would shift undue integration burden and certification risk onto Part 108 operators, undermining scalability and operational predictability that the right-of-way framework is intended to provide. A common interoperable baseline for alternate electronic conspicuity is therefore essential.

RTCA DO-282C is the most mature and widely interoperable aviation standard available today for ADS-B-derived electronic conspicuity operating on protected aviation spectrum.

With appropriate tailoring for electronic conspicuity use cases, including adjustments to certification pathways, transmit power levels, and position source assumptions, DO-282C can serve as the primary interoperability anchor for the Part 108 right-of-way framework without requiring full ADS-B Out certification under §91.227.

VII. Layered Detect-and-Avoid and Non-Cooperative Traffic

AUVSI reiterates that detect-and-avoid should be evaluated as a layered safety system rather than a single technology or device. Cooperative electronic conspicuity is a necessary and primary component of BVLOS operations and may be complemented, as appropriate to the operational risk environment, by additional acceptable mitigations to enhance overall collision avoidance performance.

Allowing a layered detect-and-avoid architecture reduces reliance on single points of failure without requiring duplicative or additive onboard electronic detection systems.

Layered detect-and-avoid may also include procedural and operational mitigations that reduce encounter likelihood, such as geographic constraints, strategic deconfliction measures, and flight pause or hold protocols, where appropriate to the operational risk environment.

Members stressed that layered detect-and-avoid must remain scalable for small UAS operations and should not depend on heavy or complex onboard systems. The FAA should continue recognizing offboard surveillance, geofencing, and parachute-based containment as acceptable contributors to collision-risk mitigation.

Historically, the FAA has accepted non-aircraft-based means of detecting conflicting traffic, such as visual observers, as part of BVLOS safety cases. Performance-based acceptance of modern, non-cooperative sensing inputs represents a technological evolution of this same risk-mitigation principle. Ground-based detect-and-avoid capabilities, including radar-based systems, may serve as a complementary safety layer for detecting non-cooperative traffic in defined operating areas, where appropriate to the operational risk environment, without displacing interoperable ADS-B-derived electronic conspicuity as the primary cooperative baseline for Part 108 operations. Such ground-based or offboard detect-and-avoid contributions are consistent with prior BVLOS waiver precedent and align with FAA's service-provider models under Part 146.

FAA's own BVLOS waiver history demonstrates that layered detect-and-avoid architectures, including offboard surveillance and shared situational awareness, have been

successfully relied upon to mitigate collision risk, particularly where visual observers or non-cooperative traffic were present.

VIII. Right-of-Way and Equipage Incentives

AUVSI reiterates its support for modernizing right-of-way rules to incentivize electronic conspicuity equipage in low-altitude airspace. Equipage-based right-of-way is more technically enforceable and operationally predictable than population-based reversals.

Equipage-based right-of-way incentives provide a practical and scalable path toward near-universal adoption of interoperable electronic conspicuity for operations below 500 feet AGL.

IX. Conclusion

AUVSI appreciates the FAA's targeted reopening of the comment period and urges the agency to adopt a performance-based approach to electronic conspicuity that supports right-of-way modernization, accelerates equipage, and enables cooperative conflict management and collision avoidance across the NAS.

Centering ADS-B-derived electronic conspicuity as a near-term baseline, while preserving flexibility for performance-equivalent approaches, will best support timely, safe, and scalable BVLOS integration.

Layered detect-and-avoid architectures are consistent with Safety Management System principles, including redundancy, hazard mitigation, and avoidance of single points of failure.

Respectfully submitted,

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