COVER SHEET

Access 5 Project Deliverable

Deliverable Number: PD004

Title: Recommendations for Sense & Avoid Policy Compliance

Filename: PD004_Sense_Avoid_Policy_Compliance_Position_Paper_v0_FINAL.doc

Abstract:
Since unmanned aircraft do not have a human on board, they need to have a sense and avoid capability that provides an “equivalent level of safety” (ELOS) to manned aircraft. The question then becomes - is sense and avoid ELOS for unmanned aircraft adequate to satisfy the requirements of 14 CFR 91.113? Access 5 has proposed a definition of sense and avoid, but the question remains as to whether any sense and avoid system can comply with 14 CFR 91.113 as currently written.

The Access 5 definition of sense and avoid ELOS allows for the development of a sense and avoid system for unmanned aircraft that would comply with 14 CFR 91.113. Compliance is based on sensing and avoiding other traffic at an equivalent level of safety for collision avoidance, as manned aircraft. No changes to Part 91 are necessary, with the possible exception of changing “see” to “sense,” or obtaining an interpretation from the FAA General Counsel that “sense” is equivalent to “see.”

Status:

WP – Work in Progress Draft

Limitations on use:
None. The position paper was tabled pending further discussions and collision avoidance requirements development. Previous discussions and requirements development efforts did not provide sufficient rationale to recommend any rule/policy change.
This document was prepared by a collaborative team through the Policy work package. This was a funded effort under the Access 5 Project.
The Access 5 definition of sense and avoid ELOS allows for the development of a sense and avoid system for unmanned aircraft that would comply with 14 CFR 91.113. Compliance is based on sensing and avoiding other traffic at an equivalent level of safety for collision avoidance, as manned aircraft. A key point to note is that the complete answer to sense-and-avoid ELOS is expected to be a system or systems that address both cooperative and non-cooperative traffic situations. However, under certain conditions (e.g. in Class A airspace or above, with a certain type of control system, and perhaps some other limitations), it may be possible to obtain a favorable sense-and-avoid ELOS determination using a cooperative only system.

Therefore, unmanned aircraft systems that meet an ELOS for midair collisions, compared to manned aircraft, would comply with 14 CFR 91.113. No changes to Part 91 are necessary, with the possible exception of changing “see” to “sense,” or obtaining an interpretation from the FAA General Counsel that “sense” is equivalent to “see.”

**Project Coordination:**

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