

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

N 8900.589

National Policy

Effective Date:
7/21/21

Cancellation Date:
7/21/22

SUBJ: Automatic Dependent Surveillance-Broadcast (ADS-B) Pilot Deviation
Compliance and Enforcement Procedures

1. Purpose of This Notice. This notice explains the specific procedures that apply to compliance and enforcement actions involving pilots who operate aircraft that do not comply with the Automatic Dependent Surveillance-Broadcast (ADS-B) Out requirements specified by Title 14 of the Code of Federal Regulations (14 CFR) part 91, §§ 91.225 and 91.227. This notice updates policy found in Federal Aviation Administration (FAA) Order 8900.1, Volume 7, Chapter 1, Section 2, Pilot Deviations, Incident Investigations, and Occurrences.

2. Audience. The primary audience for this notice is personnel assigned to investigations of potential violations of §§ 91.225 and 91.227 within the Flight Standards Service Safety Assurance offices and International Field Offices (IFO). The secondary audience includes the Safety Standards and Foundational Business offices.

3. Where You Can Find This Notice. You can find this notice on the MyFAA employee website at https://employees.faa.gov/tools_resources/orders_notices. Inspectors can access this notice through the Flight Standards Information Management System (FSIMS) at <https://fsims.avs.faa.gov>. Operators can find this notice on the FAA's website at <https://fsims.faa.gov>. This notice is available to the public at https://www.faa.gov/regulations_policies/orders_notices.

4. Background. After January 1, 2020, unless authorized by air traffic control (ATC), all aircraft operating in the airspace defined by § 91.225 must have equipment installed that meets the performance requirements specified in §§ 91.225 and 91.227. ADS-B Out equipment must be operated in the transmit mode at all times, unless directed otherwise by ATC. A system known as the ADS-B Performance Monitor (APM) is the primary means for detecting noncompliance with §§ 91.225 and 91.227. APM continuously monitors the equipment performance of all ADS-B-Out-equipped aircraft operating in U.S. airspace from the nationwide network of ADS-B ground receivers. The APM collects data transmitted from aircraft on the surface and airborne. APM also collects data from Traffic Information Service-Broadcast (TIS-B), Traffic Flow Management System (TFMS), and System Wide Information Management (SWIM) Flight Data Publication Service (SFDPS) flight data sources. TIS-B takes the position and altitude of an ATC radar target, converts that information into a format compatible with ADS-B, and broadcasts the information to aircraft equipped with either of the two ADS-B In datalinks. Data from the TIS-B Service and Flight Data Systems (TFMS/SFPDS) is collected to help identify improperly

configured ADS-B systems and/or nonequipped aircraft operating within FAA-controlled ADS-B Rule Airspace.

5. Discussion. ATC will continue to report non-ADS-B-related pilot deviations (PD) to the appropriate FS office per current procedures. However, the APM is the FAA's primary means for detecting potential ADS-B-related violations. The APM assesses each aircraft's ADS-B performance against the requirements of §§ 91.225 and 91.227. Once the APM detects a suspected violation, the APM system will email a notification of the occurrence and supporting evidence to the appropriate FS office for investigation and possible compliance or enforcement action as appropriate. Order 8900.1, Volume 7, Chapter 1, Section 2 addresses procedures for the investigation of PDs, but does not include the role of the APM. This notice explains the APM notification process related to the investigation of potential ADS-B PDs.

6. Notification of ADS-B Occurrences. Currently the Air Traffic Organization (ATO) Quality Assurance Group (QAG) and Quality Control Group (QCG) identify occurrences that may require FS action and forward the necessary information, via the Comprehensive Electronic Data Analysis and Reporting (CEDAR) database, email notices, or other means, to the responsible Flight Standards office for investigation. CEDAR does not currently support ADS-B occurrence notifications. Therefore, the APM will automatically forward the notification and supporting documentation to FS offices using email.

7. Investigative Documents. Once the APM detects a potential violation, the system will compile the evidence and forward it to the investigating office for further action in accordance with existing policy and procedures. Depending upon the nature of the potential violation, the documents will include some or all of the following:

a. ADS-B Aircraft Summary. This document includes the aircraft registration number, aircraft registration information, and the version of ADS-B equipment installed (§ 91.225 requires version 2 or later), if any is detected.

b. Operation Summaries. The TIS-B Operation Summary will indicate the date, time, and location where the aircraft was detected by radar, and that a TIS-B track could not be correlated to a valid ADS-B track. This may include a broadcast flight identification, and will include an aircraft registration number that links the detected operation to the specific aircraft. The investigation documents may also include a Flight Data Operation Summary if a flight plan was associated with the TIS-B track. The flight plan data will provide further data to assist in an investigation.

c. ADS-B Performance Report. The Performance Report will state when the aircraft was first and last seen, the operator, the flight ID, and the duration of all operations used to generate the report for the aircraft. This is available only if the APM detects an ADS-B system.

d. Flight Track Files. The APM generates and stores two track files for each detected flight. The first file contains all messages received by the FAA ground system from an ADS-B-equipped aircraft. The second file is used to generate a three-dimensional graphical depiction of the subject flight on certain geographical map applications (e.g., Google Earth).

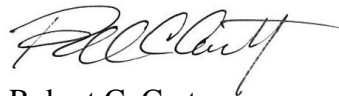
e. **Transmittal Sheet.** A transmittal sheet accompanies the investigative documents. This sheet summarizes the salient information about the occurrence from all of the previously listed documents, and may be all that is needed to commence an investigation.

8. Subject Matter Expert (SME) Support. The detection of occurrences by the APM is the only novel aspect of the process of investigating possible ADS-B violations. Once the APM compiles and forwards the investigative documents to an investigating office, existing policy and guidance direct the process. Inspectors from the Flight Technologies and Procedures Division (AFS-400), Flight Operations Group (AFS-410) will provide subject matter expertise to investigating offices as requested.

9. References (current editions):

- Advisory Circular (AC) 90-114, Automatic Dependent Surveillance-Broadcast Operations.
- Order 8900.1, Volume 6, Chapter 15, Section 1, Regulatory Oversight of ADS-B Equipment, Operations, and Performance Requirements.
- Order 8900.1, Volume 7, Chapter 1, Section 2, Pilot Deviations, Incident Investigations, and Occurrences.

10. Disposition. We will incorporate the information in this notice into Order 8900.1, Volume 7, Chapter 1, Section 2 before this notice expires. Direct questions or comments concerning the information in this notice to AFS-400, AFS-410 at 202-267-8790 or 9-AFS400-ADS-B-Ops-Compliance@faa.gov.



Robert C. Carty
Deputy Executive Director, Flight Standards Service