



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 91

[Docket No.: FAA-2017-1194]

Change to Automatic Dependent Surveillance Broadcast Services

AGENCY: Federal Aviation Administration (FAA), DOT

ACTION: Notification of changes in ADS-B services.

SUMMARY: This action announces changes in ADS-B services, including Traffic Information Service – Broadcast (TIS-B), for a small number of aircraft. The FAA is implementing a filter for certain ADS-B equipped aircraft broadcasting erroneous or improper information when the broadcast information could affect the safe provision of air traffic services. Any aircraft subject to the filter will not have its ADS-B information sent to an air traffic control (ATC) facility nor will the aircraft be a client for TIS-B services. Affected aircraft will continue to receive ATC services within radar coverage using secondary radar information.

DATES: The action described herein is implemented [INSERT DATE 10 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

FOR FURTHER INFORMATION CONTACT: For technical questions concerning this action, contact: David E. Gray, Program Manager, Surveillance and Broadcast Services, AJM-232, Air Traffic Organization, Federal Aviation Administration, 600 Independence Ave., SW, Wilbur Wright Building, Washington, DC 20597; telephone: 202-267-3615; email: adsb@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

In 2010, the FAA issued a final rule mandating equipage requirements and performance standards for Automatic Dependent Surveillance – Broadcast (ADS-B) Out avionics on aircraft operating in certain airspace after December 31, 2019. 75 FR 30160, May 28, 2010. Use of ADS-B Out will move air traffic control from a radar-based system to a satellite-derived aircraft location system and enhance aircraft surveillance by FAA and Department of Defense (DOD) air traffic controllers. Equipage with ADS-B avionics also provides aircraft operators with a platform for additional flight applications and services, including TIS-B,¹ which improve a pilot’s situational awareness in aircraft not equipped with a traffic alert and collision avoidance system (TCAS).

In deploying the ADS-B surveillance infrastructure, the FAA implemented a capability to monitor compliance with §91.227 requirements for aircraft operating within the U.S. National Airspace System (NAS). Over the past three years, this monitoring has identified some ADS-B Out aircraft with non-performing equipment (NPE) transmitting data used by ATC and ADS-B-In-equipped aircraft that present a potential safety hazard to NAS operations, including but not limited to: unassigned/invalid 24-bit ICAO addresses; incorrect flight identification codes; erroneous position reports; improper avionics integrity and accuracy levels; and missing data required by applicable regulations.

To reduce the potential hazard presented by NPE aircraft, the FAA is filtering individual 24-bit ICAO address codes (also known as Mode S codes) for certain aircraft from the FAA’s operational ADS-B network. The FAA is implementing an ATC filtering capability on [INSERT DATE 10 DAYS AFTER THE DATE OF PUBLICATION IN THE FEDERAL REGISTER].

¹ TIS-B uses secondary surveillance radars and multilateration systems to provide proximate traffic situational awareness, including position reports from aircraft not equipped with ADS-B Out. TIS-B data may not provide as much information as could be received directly from an aircraft’s ADS-B Out broadcast, because of the required data processing. The TIS-B signal is an advisory service that is not designed for aircraft surveillance or separation, and cannot be used for either purpose.

This filtering prevents processing of data transmitted by uniquely identified NPE aircraft within FAA air traffic control systems and by the FAA TIS-B service. ATC will continue to receive transponder replies to secondary radar interrogations and will be able to provide ATC services within radar coverage to aircraft subject to the filter, using secondary radar information. Also, any aircraft with a filtered ICAO address code will continue to appear as a “target” to nearby aircraft with ADS-B-In equipment.

Action

The FAA will always filter ICAO address codes from aircraft that are transmitting the hexadecimal values “000000” and “FFFFFF.” Per ICAO technical standards which FAA surveillance systems meet, neither of these ICAO address codes should be used by any aircraft ADS-B Out transmitter or Mode S transponder. However, FAA ADS-B monitoring over the last three years indicates that approximately once per day, on average, there is a flight in the NAS using one of these incorrect ICAO address codes and indicating that the aircraft is equipped with an ADS-B-In system. Because these non-compliant codes are not unique to a single aircraft, the potential for multiple aircraft to transmit the same code could create confusion inside ADS-B and TCAS avionics, Mode S interrogators, and ATC automation systems. This confusion could cause an aircraft’s position to be incorrectly displayed or not displayed at all, thereby creating an unsafe condition in the NAS. To mitigate this risk and discourage violation of ICAO technical standards, the FAA will filter the ADS-B information from any aircraft transmitting a non-compliant address code from the FAA’s operational ATC systems. Therefore, aircraft broadcasting these incorrect ICAO address codes will be unable to receive TIS-B services.

The FAA also intends to utilize the filter for other ICAO codes that are being improperly broadcast or for aircraft whose ADS-B Out equipment has exhibited erroneous position reports

that could affect the safe provision of air traffic services. The FAA may also utilize the filter for aircraft that have a known issue that could reasonably result in erroneous ADS-B reports that could affect the safe provision of ATC services.

The FAA has initiated the filtering capability described in this document for aircraft transmitting non-compliant codes. For other aircraft, the FAA intends when possible to provide individual notice to owners/operators prior to utilizing the filter. This notification would describe the reason for applying the filter and steps that must be taken before an aircraft may be removed from the filter. If an aircraft owner/operator does not respond to an FAA notice of finding regarding an ADS-B avionics issue, FAA at its option may subject that aircraft to the filter without further notice.

Owners and operators can identify the ICAO address filtering status of their aircraft by requesting a Public ADS-B Performance Report (PAPR) at the following web address: <https://adsbperformance.faa.gov/PAPRRequest.aspx>. Owners and operators whose aircraft are affected by application of the ICAO address filter must contact the FAA Flight Standards Service ADS-B Focus Team at adsbfocusteam@faa.gov for guidance on corrective actions and coordination for removal of aircraft from the ICAO address filter.

Operators should check to insure that the ICAO address code (Mode S code) broadcast by their ADS-B equipment matches the assigned ICAO address code for their aircraft. This ICAO address code (Mode S code) can be found at:

http://registry.faa.gov/aircraftinquiry/NNum_Inquiry.aspx. Operators can verify what ICAO

address code is being broadcast by their aircraft by visiting:

<https://adsbperformance.faa.gov/PAPRRequest.aspx>.²

Issued in Washington, DC, on December 12, 2017.

Kristen G. Burnham,

Vice President, Program Management Organization, FAA Air Traffic Organization.

² For those aircraft transmitting an erroneous ICAO code, the PAPER software will search for the Flight ID matching the entered N-registry number if it cannot locate the corresponding ICAO code.

[FR Doc. 2017-27202 Filed: 12/19/2017 8:45 am; Publication Date: 12/20/2017]