NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

N7210.634

Cancellation
Date: 07/14/07

SUBJ: **REQUIREMENTS FOR THE USE OF AUTOMATIC DEPENDENT SURVEILLANCE BROADCAST (ADS-B) AT ANCHORAGE AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC)**

1. PURPOSE. This notice establishes requirements to support the operational validation of the use of ADS-B information at Anchorage ARTCC.

2. DISTRIBUTION. This notice is distributed to select offices in Washington headquarters, the Western En Route and Oceanic Service Area, William J. Hughes Technical Center, Mike Monroney Aeronautical Center, and Anchorage ARTCC.

3. EFFECTIVE DATE. This notice is effective July 15, 2006.

4. CANCELLATION. Notice N7210.628, Requirements for the Use of Automatic Dependent Surveillance-Broadcast (ADS-B) in the Bethel area at Anchorage Air Route Traffic Control Center (ARTCC), effective May 26, 2006, is canceled.

5. DEFINITIONS.

a. Automatic Dependent Surveillance-Broadcast (ADS-B). ADS-B is a surveillance system that transmits information, such as Global Positioning System (GPS) position, at specified intervals via a digital broadcast, for utilization by any air and/or ground users requiring it.

b. Ground Based ADS-B Transmitter/Receiver (GBT). The GBT relays information between ADS-B equipped aircraft and ground system.

6. BACKGROUND. Direct responsibility for the oversight of the operational use of ADS-B information for air traffic control purposes at Anchorage ARTCC has transitioned to the ATO En Route and Oceanic Safety and Operations Support office (ATO-E SOS) through the Western En Route and Oceanic Service Area (WEOSA). In support of efforts to validate the safety of fully integrated ATC separation standards in the NAS, a baseline consisting of documented and demonstrated local procedures, training, and MicroEARTS configuration and adaptation was established for a 5 NM separation standard between ADS-B targets within a facility-identified ADS-B surveillance service area. Procedures in support of those operations, as outlined in N7210.628, Requirements for the use of Automatic Surveillance Broadcast (ADS-B) in the Bethel area at Anchorage ARTCC, have been demonstrated and found to meet acceptable safety levels.

In accordance with a safety risk mitigation and operational validation plan, and in coordination with Aviation Safety (AVS), standards and procedures have been developed to support the validation of a 5 NM radar separation standard between an ADS-B target and a radar target. Upon validation, the baseline procedures and phraseology contained in this notice will serve as the foundation for the development of national procedures for use of ADS-B upon integration into the National Airspace System.

7. RESPONSIBILITIES.

a. ATO-E SOS:

(1) Provide national policy, oversight and guidance regarding air traffic control procedures and requirements for the use of ADS-B information.

(2) Review and take appropriate action on recommendations from WEOSA regarding local procedures, training, and MicroEARTS adaptation in support of the operational use of ADS-B.

(3) Ensure appropriate coordination with AVS regarding ADS-B separation standards and operational validation guidelines.

(4) Complete a safety risk assessment that identifies the hazards associated with ADS-B at Anchorage ARTCC, determines the risks, establishes mitigation plans, and determines processes for monitoring the mitigations.

b. WEOSA:

(1) Review, revise as appropriate, and forward local procedures, training program, and MicroEARTS adaptation changes to ATO-E SOS for approval.

(2) Provide ATO-E SOS with weekly status reports of ADS-B implementation at Anchorage ARTCC to include any significant discrepancies, errors, or other anomalies, and appropriate safety management information.

c. Air Traffic Manager, Anchorage ARTCC:

(1) Ensure that local procedures are developed in accordance with the provisions of this notice and incorporated into a facility Standard Operating Procedure (SOP).

(2) Identify Air Traffic requirements for MicroEARTS adaptation that establishes a clearly defined, delineated, and stratified airspace area within which ADS-B targets will be displayed. Effective July 15, 2006, the ADS-B surveillance services area shall comprise the airspace area developed in support of Notice N7210.628 for the Bethel area. On or about August 15, 2006, the ADS-B surveillance services area shall be expanded to include the airspace areas in and around King Salmon and Dillingham. Further expansion/redefinition of the ADS-B surveillance services area shall be in accordance with direction from ATO-E SOS through the WEOSA.

(3) Ensure that the ADS-B surveillance services area is defined in a facility SOP, and clearly depicted on the controller's display.

(4) Ensure that controller training is developed and provided in accordance with FAA requirements, to include mandatory briefing item with a verbal briefing and at least one simulation lab problem for those controllers that have not conducted ADS-B operations under the provisions of Notice N7210.628. Controllers must receive ADS-B procedures and phraseology training pursuant to this notice prior to conducting ADS-B operations.

(5) Request and obtain approval of local procedures, MicroEARTS adaptation, and ADS-B controller training program from WEOSA prior to the operational use of ADS-B information.

(6) Ensure that ADS-B phraseology is coordinated and disseminated to pilots.

(7) Establish a safety coordinator for the collection and analysis of quality assurance (QA) information, such as operational errors, operational deviations, pilot deviations, and automation anomalies, and pilot/avionics issues.

(8) Establish reporting processes in accordance with this notice.

(9) Ensure that appropriate safety risk management documentation for ATC procedures and training has been completed.

(10) Provide WEOSA with weekly reports of ADS-B implementation at Anchorage ARTCC to include any significant discrepancies, errors, or other anomalies, and appropriate safety management information.

8. PROCEDURAL, TRAINING, AND AUTOMATION REQUIREMENTS.

Develop appropriate local procedures, MicroEARTS adaptation, and training, to ensure consistency with the following requirements:

a. Provide ADS-B separation and advisory service only if you are satisfied that the ADS-B presentation and performance is adequate for the service being provided. (Reference FAA Order 7110.65, paragraph 5-1-1).

b. Report ADS-B malfunctions immediately for corrective action in accordance with the provisions of FAA Order 7110.65, paragraph 5-1-6.c.

c. Trouble reporting related to ADS-B equipment must comply with the provisions of FAA Order 7210.3, paragraph 2-2-13.

d. Deficiencies in ADS-B performance must be handled in accordance with the provisions of FAA Order 7210.3, paragraph 7-2-1.

e. If identification of an ADS-B target is questionable for any reason, take immediate action to reidentify the aircraft or terminate service. (Reference FAA Order 7110.65, paragraph 5-3-5)

f. Apply 5 NM radar separation minima between two ADS-B targets.

g. Apply 5 NM radar separation minima between an ADS-B target and a radar target. Additionally:

(1) If the radar target does not convert to an ADS-B target, then prior to or upon entering an area of unreliable or unusable radar coverage, discontinue radar separation between the ADS-B and radar targets and take appropriate action to establish nonradar separation between the targets.

(2) In order to apply 5 NM radar separation between an ADS-B target that will transition out of the ADS-B surveillance service area and a radar target in the radar environment (outside the ADS-B surveillance service area), the transitioning ADS-B aircraft must be equipped with a transponder. If the full data block (FDB) for the transitioning aircraft does not automatically associate with the beacon target symbol, discontinue radar separation or take appropriate action to reidentify the aircraft.

h. For a non-transponder equipped ADS-B target, nonradar separation must be established prior to that target leaving the ADS-B surveillance service area.

i. Validated Mode C altitude information may be used for separation between an ADS-B aircraft and any other aircraft. When an aircraft data block transitions from ADS-B to radar (or vice versa), ensure that local procedures provide for revalidation of Mode C altitude prior to using the displayed altitude information for separation.

j. Standard radar phraseology and procedures as described in FAA Order 7110.65 may be applied to ADS-B aircraft within the defined ADS-B surveillance services area.

k. The following phraseology must be incorporated into local ADS-B procedures:

(1) To inform an aircraft that its ADS-B transmitter appears to be inoperative or malfunctioning:

PHRASEOLOGY –
(Identification) ADS-B TRANSMITTER APPEARS TO BE INOPERATIVE/MALFUNCTIONING.

(2) To inform an aircraft, when appropriate, to turn off its ADS-B transmitter.

PHRASEOLOGY –
(Identification) STOP ADS-B TRANSMIT.

(3) To inform an aircraft, when appropriate, to turn off its ADS-B altitude reporting.

PHRASEOLOGY-
(Identification) STOP ADS-B ALTITUDE TRANSMIT

9. REPORTING PROCESSES. Establish requirements in the facility SOP to clarify the processing of safety reports to reflect the following:

a. QA issues (including operational errors, operational deviations, pilot deviations) identified by the controller and forwarded to the supervisor will be routed to the facility safety coordinator. The safety coordinator will track the report and coordinate with the WEOSA.

b. Avionics issues identified by the controller and forwarded to the supervisor will be routed to the safety coordinator. The safety coordinator will be responsible for report tracking, coordination with the Anchorage ARTCC Procedures office, coordination with AVS, as necessary, and coordination with WEOSA.

c. Automation/adaptation/procedural issues identified by the controller and forwarded to the supervisor will be routed to the safety coordinator and to the Anchorage ARTCC Procedures Office. The safety coordinator will track, coordinate with operational support (AOS), as necessary, and coordinate with WEOSA.

10. SAFETY RISK MANAGEMENT. In accordance with a recent safety assessment of ADS-B at Anchorage ARTCC, this notice implements baseline procedures for the use of ADS-B information for a 5 NM separation standard between ADS-B targets, and a 5 NM separation standard between ADS-B targets and radar targets. Requirements for the development of appropriate procedures, MicroEARTS automation changes, controller training requirements, and safety reporting processes are being established by this notice. The Surveillance and Broadcast Services Program Office and ATO-E SOS have completed a safety analysis and mitigation plan to implement the operational evaluation of a 5 NM radar separation standard between ADS-B and radar targets.



Luis A. Ramirez
Director, En Route and Oceanic
Safety and Operations Support