

# Update on GADSS Global Aircraft Tracking Initiatives

## March 2016

### **Normal Aircraft Tracking**

On 10 November 2015, the ICAO Council adopted Amendment 39 to Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes* which included the normal aircraft tracking Standards and Recommended Practices (SARPs). These SARPs became effective on 20 March 2016 and will be applicable on 8 November 2018. Amendment 39 will be issued in April 2016.

The normal aircraft tracking SARPs establish the air operator's responsibility to track its aircraft throughout its area of operations. It establishes an aircraft-tracking time interval of 15 minutes whenever air traffic services obtain an aircraft's position information at greater than 15-minute intervals for aeroplanes with a seating capacity greater than nineteen. This aircraft-tracking time interval further applies as a recommendation to all operations of aircraft with a take-off mass of 27 000 kg and as a requirement to all operations of aircraft with a take-off mass of 45 500 kg when flying over oceanic areas.

The SARPs also establish the requirements for data retention to assist search and rescue (SAR) in determining the last known position of the aircraft. Finally, the SARPs establish when an air operator needs to report missing aircraft position information.

### **Location of an aeroplane in distress (ADT – Autonomous Distress Tracking)**

On 2 March 2016, the ICAO Council adopted Amendment 40 to Annex 6, Part I which included, among other elements, SARPs relating to the location of an aeroplane in distress. These SARPs address the Global Aeronautical Distress Safety System (GADSS) autonomous distress tracking (ADT) concept. The SARPs will become effective on 11 July 2016 and will be applicable on 1 January 2021. Amendment 40 will be issued in July 2016.

The SARPs relating to the location of an aeroplane in distress establish the requirement for an aeroplane to autonomously transmit information from which a position can be determined at least once every minute when in a distress condition. An aircraft is in a distress condition when it is in a state that, if the aircraft behaviour event is left uncorrected, could result in an accident. The SARPs are applicable to new aeroplanes with take-off mass greater than 27 000 kg from 1 January 2021. The requirement also recommends that it applies to new aeroplane with take-off mass greater than 5 700 kg from the same date.

The SARPs specify that autonomous transmission of position information needs to be active when an aircraft is in a distress condition. This will provide a high probability of locating an accident site to within a 6 NM radius. It also specifies that the transmission can be activated manually. The SARP is not technology-specific and will allow for various solutions, including a triggered transmission system. It specifies performance criteria such as that the autonomous transmission of position information needs

to be capable of transmitting the information in the event of aircraft electrical power loss, at least for the expected duration of the entire flight.

The SARP also establishes the requirements for making this information available to the relevant authorities such as SAR Regional Coordination Centers and air traffic services. Finally, although these SARPs apply only to newly manufactured aircraft, there is an incentive to retrofit aeroplanes with ADT systems since they can replace one of two required emergency locator transmitters (ELT).

### **Ongoing work**

The above-mentioned adopted SARPs (Amendments 39 and 40) provide clarity on the information that will be available when they become applicable. ICAO is now working on reviewing procedures for air navigation services (PANS), and possibly other Annexes, to ensure that the flow of information is well-established by the time these new systems come online.

These SARPs will be available in the ICAO online store at <http://store1.icao.int/> on the above-mentioned issuance dates.