International Civil Aviation Organization

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Agenda Item 4: Asia/Pacific and inter-regional SAR planning, coordination and cooperation

PROCEDURES FOR RECEPTION AND HANDLING OF ADT NOTIFICATIONS RECEIVED

(Presented by USA)

SUMMARY

This paper presents guidance and recommended procedures for RCC reception and handling of autonomous distress tracking (ADT) notifications received from an aircraft in flight that might be in distress.

1. INTRODUCTION

1.1 The Global Aeronautical Distress and Safety System continues to evolve, in particular, the autonomous distress tracking (ADT) function. Great progress has been made in recent years but key parts are still being developed. Guidance in the IAMSAR Manual, Volumes I and II, and the Asia/Pacific SAR Plan, Version 4.0 October 2022, is still valid in general. More specific details will become available when the draft ICAO Doc 10165 *Manual on Global Aeronautical Distress and Safety System*, now being reviewed within ICAO Headquarters, is published around September 2023.

1.2 ADT is another means of notification to the RCC for an aircraft in flight that might be in distress. New-built large commercial aircraft - passenger and cargo - on international flights (flights into, out of and over your country) will soon be required to be equipped with an ADT device. RCCs and ATS units should review their current procedures and practices and decide if changes need to be made.

2. DISCUSSION

2.1 ICAO considers the ADT device as providing a notification, not a distress alert, initially handled at the alert phase unless other information indicates otherwise. The ADT device will provide key information, discussed later in this paper, for storage in the ICAO "location of an aircraft in distress repository (LADR)". The LADR will inform the three key stakeholders, initially by email, about the availability of that information. The stakeholders are expected to access the LADR to gain that information.

2.2 The major aircraft manufacturers, Boeing and Airbus, advised that they will equip their new-built aircraft with an ADT device starting around June 2023. The ADT device they selected for now is the ELT - Distress Tracking (ELT(DT)). It will send a 406 MHz Cospas-Sarsat formatted message to the RCC at the same time it sends an ADT notification to the LADR. The Cospas-Sarsat message to the RCC will have the title clearly named as "ELT DISTRESS TRACKING" and contains the required ADT information plus other optional information.

2.3 The LADR should be operational before the end of 2023. The LADR is a central location for storing and accessing the last known position of an aircraft in distress. Access to the LADR is by means of the OPS Control (OPS CTRL). OPS CTRL is ICAO's existing directory of contact details intended to facilitate communication between operators (airlines) and ANSPs in the event of a missed aircraft position report. The RCCs will soon be required to provide their contact details in the OPS CTRL once the proposal for amendment of ICAO Annex12 is implemented. ICAO Montreal will send a State letter in 2023 to better explain what the LADR and OPS CTRL are and how to use them.

2.4 The information held in the LADR should be sufficient to positively identify the aircraft, and provide the last known position to all users, and includes:

- Latitude
- Longitude
- Date and time (both transmission and receipt)
- Operator 3-letter designator
- Aircraft identification (Aircraft nationality and registration mark, 24-bit address, flight number etc.)

2.5 Additional data intended to assist SAR with their recovery efforts can also be retained, but is not required to be submitted, include:

- Altitude
- Groundspeed
- Heading
- ELT Hex ID
- Activation method of the autonomous distress tracking system (manual, automatic, parameter exceedance triggering

2.6 Current thinking for RCC procedures to appropriately respond to distress messages from an aircraft still in flight include:

- Determine State of registration of the aircraft, and aircraft position from the alert or notification;
- Log in to the LADR to access all available information for the event, including the aircraft's last known position;
- Contact the appropriate ATS unit and operator in accordance with ICAO Annexes 11 and 12 to exchange further information about the possible (or confirmed) distress event using the contact information for both the ATS unit and aircraft operator in the OPS Control Directory;
- Monitor the last known position available in the LADR to assist in determining the trajectory of the aircraft to support coordination with the appropriate ATS unit and neighbouring RCCs, as appropriate,
- Prepare for a SAR operation, while monitoring incoming messages for a possible cancellation message; and
- Launch SAR activities appropriate to the implicated SRR (in accordance with IAMSAR Manual guidance and national procedures) and/or communicating with other appropriate RCCs to inform them of the event.

2.6 The ADT device provides a notification, not a distress alert, and initially handled at the alert phase unless other information indicates otherwise. Actual distress events should be infrequent but can happen and ADT uses new technology so some false alerts should be anticipated. Therefore, preparation for an ADT event should include review of contact details between the ATS unit and associated RCC and also procedures and practices to ensure efficient, effective response.

2.7 Planning scenarios should include actions to take when the LADR is not available. This includes the near term while the LADR is not yet operational and any time the LADR is not working. If an aircraft is equipped with the ELT(DT) as its ADT device, then the ADT notifications will still be sent via the Cospas-Sarsat distribution system to the RCC. Therefore, the other two key stakeholders, the operator and the ATS unit, may not be aware of the situation. In this case, the RCC should contact at least the appropriate ATS unit to exchange further information about the possible (or confirmed) distress event.

2.8 The USA and the ICAO Paris office in coordination with ICAO Montreal are developing the North Atlantic (NAT) Autonomous Distress Tracking Exercise with Location of an Aircraft in Distress (NAT DISTREX). The goal is testing of new procedures to be in place for ADT and LADR. This end-to-end test of ADT service in late 2023/early 2024 is to coincide with the LADR being operational. It will be designed to serve as a model for other ICAO regional offices to encourage conducting a similar test.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper; and

b) discuss any relevant matters as appropriate, including if current ATS unit – RCC procedures and practices need to be changed.

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