



ICAO

International Civil Aviation Organization

Eighth Meeting of the ICAO Asia/Pacific Search and Rescue Working Group (APSAR/WG/8)

Bangkok, Thailand, 22 – 25 May 2023

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

ASIA/PACIFIC REGIONAL READINESS FOR AUTONOMOUS DISTRESS TRACKING

(Presented by Secretariat)

SUMMARY

This paper presents survey results of the Asia/pacific regional readiness for the planned Autonomous Distress Tracking (ADT) applicability.

1. INTRODUCTION

1.1 Amendment 48 to Annex 6 Operation of Aircraft Part 1, adopted by the Council of ICAO on 18 July 2022, deferred the applicability of Standard for the location of an aeroplane in distress. The planned Autonomous Distress Tracking (ADT) applicability date of 01 January 2023 has been deferred until 01 January 2025 (ICAO (HQ) State Letter AN 22/75, 29 July 2022 refers). However, it is expected that increasing numbers of aircraft equipped with (ADT) devices will become operational from late 2022 and that ADT alerts will be distributed through the Cospas-Sarsat system and the ICAO LADR (when commissioned). Therefore there was an urgent need:

- for effort to be made to improve knowledge of GADSS among Regulatory, Airline, SAR and ANSP stakeholders, and;
- to promote development of procedures among them in preparation for the likely appearance of ADT, including ELT(DT) before the end of 2022 and increasingly after the applicability date.

1.2 The ICAO Asia/Pacific Regional Office organised the Global Aeronautical Distress and Safety System (GADSS) Workshop, held on 23 May 2022 in conjunction with the APSAR/WG/7 meeting. A pre-workshop poll revealed that more than 50% of respondents had indicated their knowledge of the GADSS topic was either 'low' or 'none'.

2. DISCUSSION

Background

2.1 In discussing the outcomes of the GADSS workshop, the APSAR/WG/7 meeting agreed to the following:

- ICAO would consider what further workshop activity could be undertaken before end of 2022 to improve stakeholder knowledge and preparedness for ADT;
- Brief guidance should be developed in the form of a checklist of considerations for when an ADT is activated;

- ICAO would issue an APAC State Letter to:
 - Remind States of the applicability date;
 - Inform them of the OPS CTRL and LADR registration process and encourage them to register;
 - Include a survey on readiness for the 01 January 2023 applicability of ADT;
 - Be circulated informally to all relevant POCs, in addition to the formal State Letter distribution.

2.2 The Checklist of Considerations (**Attachment 1**) supported the following ATM/SG Conclusion drafted by APSAR/WG/7 formed the basis of the survey on ADT readiness that was circulated by the ICAO APAC Regional Office in State Letter (APAC) AP128/22 (ATM), 13 September 2022:

Conclusion ATM/SG/10-1): Checklist of Considerations in Readiness for Autonomous Distress Tracking

Noting:

1. *the recent deferral of applicability of Autonomous Distress Tracking (ADT) from 01 January 2023 to 01 January 2025; and*
2. *the likelihood that ADT equipped aircraft will increasingly be operating from late 2022 onwards;*

States are urged to implement a programme of education and procedure development for aviation regulators, aircraft operators, SAR services and ANSPs, using the Checklist of Considerations for Response to ADT Notifications at Appendix H to the Report.

2.3 Responses from the readiness survey had been received from 20 Administrations as at 01 May 2023. **Attachment 2** summarizes the reported readiness of respondent APAC Administrations for ADT. The survey showed that majority of Administrations are not ready for ADT.

- The majority have yet to develop procedures for the response to ADT notification or ELT(DT) alerts;
- Training of relevant SAR personnel, ATS personnel and flight dispatchers to understand ADT notifications and ELT(DT) alerts has not been conducted.

2.4 In view of the apparent lack of readiness in APAC regions, the meeting is invited to consider the following:

- Updating of the survey questions where necessary;
- Conducting of a re-survey, and, if agreed
- The timing of the re-survey.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) discuss the proposal in paragraph 2.4
- c) discuss any relevant matters as appropriate.

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SURVEY OF STATE READINESS FOR AUTONOMOUS DISTRESS TRACKING (ADT)

(Annex 6 Operation of Aircraft Part 1 International Commercial Air Transport – Aeroplanes section 6.18)

The survey questions in the following pages resulted from the discussion outcomes of the Seventh Meeting of the Asia/Pacific SAR Working Group (AP SAR/WG/7, 24 to 27 May 2022), and are intended to:

1. Gauge State readiness for ADT alerts; and
2. Serve as a checklist of considerations for regulatory authorities, SAR services and Air Traffic Service Units (ATSUs) to support their preparation for the reception and handling of ADT alerts.

APAC Administrations are requested to ensure the survey is circulated to the following entities, and their responses provided in a consolidated State response to the survey:

1. Aviation Regulatory Authority;
2. Aircraft Operators (Annex 6 Part 1);
3. SAR Service Providers; and
4. Air Navigation Service Providers

States are requested to provide their consolidated response to the ICAO Asia/Pacific Regional Office (apac@icao.int) by **not later than 07 October 2022**, in order that regional readiness for ADT may be assessed by the 10th Meeting of the Air Traffic Management Sub-Group of APANPIRG (ATM/SG/10, 17 to 21 October 2022), and subsequently by APANPIRG/33 (21 to 23 November 2022).

Notes:

The ADT provisions of Annex 6 *Operation of Aircraft Part I* section 6.18 were originally applicable from 01 January 2023. However, at the sixteenth meeting of its 226th Session (18 July 2022) the Council of ICAO adopted Amendment 48 to the Annex, revising the provision as follows (ICAO State Letter AN 11/1.3.35-22/75 dated 29 July 2022 refers.):

6.18.1 As of 1 January 2025, All aeroplanes of a maximum certificated take-off mass of over 27 000 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2023⁴, shall autonomously transmit information from which a position can be determined by the operator at least once every minute, when in distress, in accordance with Appendix 9.

However, regardless of the deferral of the Annex 6 provisions, airlines, Search and Rescue (SAR) Services and Air Traffic Service Units (ATSUs) may receive ADT alerts or notifications before the applicability date as increasing numbers of aircraft complying with the standard become operational from late 2022 onwards. Some aircraft manufacturers have chosen the Emergency Locator Transmitter (Distress Tracking) - ELT(DT) – as their ADT solution and it is expected that delivery of new aircraft fitted with the ELT(DT) may commence in increasing numbers from late 2022. ELT(DT) alerts will be processed via the Cospas-Sarsat system and also later through the new ICAO Location of an Aircraft in Distress Repository (LADR) when that system is commissioned. Therefore, State SAR Services and ATSUs will need to be prepared to respond to ELT(DT) alerts as increasing numbers of aircraft fitted with this system may become operational from late 2022 onwards.

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AVIATION REGULATORY AUTHORITY		
Check the box if State has:		
1.	<input type="checkbox"/>	Registered a State Focal Point in the ICAO OPS CTRL Directory (email: aircrafttracking@icao.int website: https://www4.icao.int/opsctrl/)
2.	<input type="checkbox"/>	Taken action to ensure and facilitate the registration of all relevant organizations in the OPS CTRL Directory
3.	<input type="checkbox"/>	Recorded the required operational contact details in the OPS CTRL Directory
4.	<input type="checkbox"/>	Identified relevant entities and ensured they are prepared to subscribe to LADR notifications when the service is commissioned
5.	<input type="checkbox"/>	Developed regulations requiring aircraft operator compliance with Annex 6 Section 6.18
6.	<input type="checkbox"/>	Ensured the incorporation of procedures for ADT notifications, and verification by aircraft operators, in existing procedures for ATS alerting services.
7.	<input type="checkbox"/>	Ensured the development of procedures for RCC actions in response to ADT notifications
8.	<input type="checkbox"/>	Ensured the development of procedures for RCC actions in response to ELT(DT) alerts via the Cospas-Sarsat system
9.	<input type="checkbox"/>	Incorporated ADT considerations in procedures and manuals for safety oversight of aircraft operators, ANSPs and SAR service organizations
10.	<input type="checkbox"/>	Published and promulgated educational material on ADT for aircraft operator, ATSU and RCC personnel and other necessary stakeholders

AIRCRAFT OPERATOR		
Check the box if the Aircraft Operator has:		
1.	<input type="checkbox"/>	Registered in the ICAO OPS CTRL Directory (email: aircrafttracking@icao.int website: https://www4.icao.int/opsctrl/)
2.	<input type="checkbox"/>	Commenced preparation for subscription to LADR notifications, when the service is commissioned.
3.	<input type="checkbox"/>	Developed procedures for the initial aircraft operator response to ADT notifications
4.	<input type="checkbox"/>	Developed procedures for the initial aircraft operator response to ELT(DT) alert coordination received from SAR authorities or ATSUs
5.	<input type="checkbox"/>	Trained flight despatch and other relevant personnel to understand ADT notifications and ELT(DT) alerts (according to fleet equipage), and to execute ADT procedures accordingly
6.	<input type="checkbox"/>	Developed procedures for informing appropriate ATS units of the outcome of ADT validation checks

SAR SERVICE PROVIDER (RCC/RSC)		
Check the box if the Air Navigation Service Provider has:		
1.	<input type="checkbox"/>	Registered in the ICAO OPS CTRL Directory (email: aircrafttracking@icao.int website: https://www4.icao.int/opsctrl/)
2.	<input type="checkbox"/>	Commenced preparation for subscription to LADR notifications, when the service is commissioned.
3.	<input type="checkbox"/>	Developed procedures for the initial response to ADT notifications received from ATS units.
4.	<input type="checkbox"/>	Developed procedures for the initial response to ELT(DT) alerts.
5.		Developed procedures for the use of LADR
6.	<input type="checkbox"/>	Trained SAR personnel to understand ADT notifications and ELT(DT) alerts, and to execute ADT procedures accordingly.

AIR NAVIGATION SERVICE PROVIDER		
Check the box if all relevant Air Traffic Service (ATS) Units have:		
1.	<input type="checkbox"/>	Registered in the ICAO OPS CTRL Directory (email: aircrafttracking@icao.int website: https://www4.icao.int/opsctrl/)
2.	<input type="checkbox"/>	Commenced preparation for subscription to LADR notifications, when the service is commissioned
3.		Provided for LADR access to the relevant operational supervisory position in the ACC in charge of each FIR, when the services is commissioned
4.	<input type="checkbox"/>	Developed procedures for the response to ADT notifications received from aircraft operators.
5.	<input type="checkbox"/>	Developed procedures for the response to ELT(DT) coordination received from SAR authorities.
6.	<input type="checkbox"/>	Trained relevant ATS personnel to understand ADT notifications and ELT(DT) alerts, and to coordinate in accordance with procedure.

Reference Material

Seventh Meeting of the Asia/Pacific Search and Rescue Working Group ([APSAR/WG/7](#))

ICAO Annex 6 *Operation of Aircraft Part I*

ICAO Annex 11 *Air Traffic Services*

ICAO Annex 12 *Search and Rescue*

ICAO Annex 13 *Accident and Incident Investigation*

ICAO Doc 4444 *Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM)*

ICAO Doc 100542 *Manual on Location of Aircraft in Distress and Flight Recorder Data Recovery*

ICAO Doc 10165 *Global Aeronautical Distress and Safety System (GADSS) Manual (NEW)*

Expected availability Q3/Q4 2022

International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual Volumes I and II
ICAO Asia/Pacific Regional SAR Plan Version 4.0

Subject to approval by the Tenth Meeting of the ATM Sub-Group of APANPIRG, November 2022

ICAO Web Resources:

Global Tracking Initiatives

<https://www.icao.int/safety/OPS/OPS-Section/Pages/Global-tracking.aspx>

Update on GADSS-Related Global Aircraft Tracking Initiatives

<https://www.icao.int/safety/globaltracking/Pages/GADSS-Update.aspx>

ICAO Skytalk: GADSS Implementation Support Tools

<https://www.youtube.com/watch?v=ZbD3IIdkzBk>

ICAO OPS Control Directory

<https://www4.icao.int/opsctrl/>

Cospas-Sarsat Documentation:

C/S A.001 (data distribution procedures for ELT(DT)s)

C/S A.002 (structure and samples of ELT(DT) distress alert messages sent to SPOCs)

C/S T.001 and C/S T.018 (respectively, FGB and SGB (ELT(DT) specifications)

C/S G.007 (RCC handbook)

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SURVEY OF STATE READINESS FOR AUTONOMOUS DISTRESS TRACKING (ADT)		Australia	Hong Kong, China	Macao, China	DPRK	Fiji	India	Indonesia	Japan	Lao PDR	Malaysia	Nepal	New Zealand	Pakistan	Philippines	Singapore	Sri Lanka	Timor Leste	Thailand	United States	Viet nam	Responses
AVIATION REGULATORY AUTHORITY (20 responses)																						
Check the box if State has:																						
1	Registered a State Focal Point in the ICAO OPS CTRL Directory (email: aircrafttracking@icao.int website:	X	X	X								X				X	X		X			35%
2	Taken action to ensure and facilitate the registration of all relevant organizations in the OPS CTRL Directory	X	X		X	X			X			X		X		X	X		X			50%
3	Recorded the required operational contact details in the OPS CTRL	X	X									X				X			X			25%
4	Identified relevant entities and ensured they are prepared to subscribe to LADR notifications when the service is commissioned	X	X		X								X	X	X				X			35%
5	Developed regulations requiring aircraft operator compliance with Annex 6 Section 6.18		X	X	X			X					X	X				X	X	X	X	50%
6	Ensured the incorporation of procedures for ADT notifications, and verification by aircraft operators, in existing procedures for ATS				X								X					X	X			20%
7	Ensured the development of procedures for RCC actions in response to ADT notifications				X								X		X			X				20%
8	Ensured the development of procedures for RCC actions in response to ELT(DT) alerts via the Cospas-Sarsat system				X								X		X			X				20%
9	Incorporated ADT considerations in procedures and manuals for safety oversight of aircraft operators, ANSPs and SAR service organizations		X															X	X	X	X	25%
10	Published and promulgated educational material on ADT for aircraft operator, ATSU and RCC personnel and other necessary stakeholders											X							X			10%
AIRCRAFT OPERATOR																						
Check the box if the Aircraft Operator has:																						
1	Registered in the ICAO OPS CTRL Directory (email: aircrafttracking@icao.int website:		X	X		X			X	X	X	X			X	X			X		X	50%
2	Commenced preparation for subscription to LADR notifications, when the service is commissioned.				X						X	X				X						20%
3	Developed procedures for the initial aircraft operator response to ADT notifications										X						X					10%

SURVEY OF STATE READINESS FOR AUTONOMOUS DISTRESS TRACKING (ADT)		Australia	Hong Kong, China	Macao, China	DPRK	Fiji	India	Indonesia	Japan	Lao PDR	Malaysia	Nepal	New Zealand	Pakistan	Philippines	Singapore	Sri Lanka	Timor Leste	Thailand	United States	Viet nam	Responses
4	Developed procedures for the initial aircraft operator response to ELT(DT) alert coordination received from SAR authorities or ATSUs										X				X							10%
5	Trained flight despatch and other relevant personnel to understand ADT notifications and ELT(DT) alerts (according to fleet equipage), and to execute ADT procedures accordingly										X	X					X					15%
6	Developed procedures for informing appropriate ATS units of the outcome of ADT validation checks									X	X						X					15%
SAR SERVICE PROVIDER (RCC/RSC)																						
Check the box if the Air Navigation Service Provider has:																						
1	Registered in the ICAO OPS CTRL Directory (email: aircrafttracking@icao.int website: https://www4.icao.int/opsctrl/)	X	X			X	X	X				X	X			X	X		X		X	55%
2	Commenced preparation for subscription to LADR notifications, when the service is commissioned.	X	X	X								X	X		X	X				X		40%
3	Developed procedures for the initial response to ADT notifications received from ATS units.													X	X			X				15%
4	Developed procedures for the initial response to ELT(DT) alerts.													X				X				10%
5	Developed procedures for the use of LADR																					0%
6	Trained SAR personnel to understand ADT notifications and ELT(DT) alerts, and to execute ADT procedures accordingly.					X						X			X			X				20%
AIR NAVIGATION SERVICE PROVIDER																						
Check the box if all relevant Air Traffic Service (ATS) Units have:																						
1	Registered in the ICAO OPS CTRL Directory (email: aircrafttracking@icao.int website: https://www4.icao.int/opsctrl/)	X	X			X			X	X		X	X			X	X					45%
2	Commenced preparation for subscription to LADR notifications, when the service is commissioned		X	X								X				X						20%
3	Provided for LADR access to the relevant operational supervisory position in the ACC in charge of each FIR, when the services is commissioned		X																			5%

SURVEY OF STATE READINESS FOR AUTONOMOUS DISTRESS TRACKING (ADT)		Australia	Hong Kong, China	Macao, China	DPRK	Fiji	India	Indonesia	Japan	Lao PDR	Malaysia	Nepal	New Zealand	Pakistan	Philippines	Singapore	Sri Lanka	Timor Leste	Thailand	United States	Viet nam	Responses
		4	Developed procedures for the response to ADT notifications received from aircraft operators.													X				X	X	
5	Developed procedures for the response to ELT(DT) coordination received from SAR authorities.			X														X	X			15%
6	Trained relevant ATS personnel to understand ADT notifications and ELT(DT) alerts, and to coordinate in accordance with procedure.			X								X						X	X			20%

Last updated: 10 May 2023