DISTRESS TRACKING
as part of the
GLOBAL AERONATICAL DISTRESS and SAFETY SYSTEM (GADSS)

Mike Barton
SAR Technical Expert, ANB

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Topics

• Brief description of the concept
• Initial steps taken by ICAO (Aircraft Tracking)
• Implementation planning
Global Aeronautical Distress & Safety System

- Aircraft Tracking Normal Operations 15 Min
- Aircraft Tracking Abnormal Operations 1 min?
- Autonomous Distress Tracking 1 min
- Retrieval of CVR and FDR Data

ATS/RCC

Operator

SWIM

May 2015
Upcoming Normal Tracking SARPs

Performance-based Standards and Recommended Practices for normal flight tracking

- No change to ATC procedures i.e. no change to SAR alerting
- Establish operator responsibility to track aircraft
- Not technology-specific – using existing technology
- Establish communication protocol between Operator, ATC and RCC
- Targeted area is Oceanic areas where ATC gets position information more than every 15 min
- Aeroplanes with a take-off mass in excess of 27,000 kg and more than 19 seats

Timelines

- ✓ January 2015
  - Preliminary review by ICAO ANC
- ✓ March 2015
  - State Letter
- November 2015
  - Adopted
- November 2016
  - Applicable
Performance-based Standards and Recommended Practices for distress flight tracking

- Not technology-specific
- Location of an accident site within 6 NM
- Activated
  - Automatically based on flight behavior
  - Manually from the air
  - Manually from the ground
- Power and position information autonomous from other a/c systems
- Applies to new aeroplanes from 2021
- Incentive for early adoption as an alternative to second ELT

Timelines

- **January 2015**
  - Preliminary review by ICAO ANC
- **May 2015**
  - State Letter
- **March 2016**
  - Adopted
- **January 2021**
  - Applicable
DISTRESS TRACKING

TRIGGER
→ Automatic
→ Manual
→ Ground

AUTONOMOUS

Trigger Examples:
- unusual attitudes
- unusual speed
- conditions
- loss of power on all engines
- ground proximity
- warnings

RESCUE COORDINATION CENTER

GADSS CONCEPT
GADSS Components

- **Aircraft Systems**
  - Most lead time
  - Forms the baseline for any future developments

- **Air Traffic Services & Operator**

- **Search & Rescue Systems**

- **System Wide Information Management**

Procedures developed to make full use of additional Aircraft capabilities

To be integrated into the work program beginning in 2015 to be available when equipage requirements are applicable

May 2015
COSPAS-SARSAT System Overview

Present System for Distress Alerts

1. Distress call utilizing PLB
2. Search & Rescue Satellites (LEO/GEO/MEO)
3. Local User Terminal
4. Mission Control Center
5. Rescue Coordination Center
Rescue Coordination Center

DISTRESS TRACKING

AUTONOMOUS

TRIGGER
→ Automatic
→ Manual
→ Ground

Search & Rescue Satellites
LEO/GEO/MEO

Local User Terminal

Mission Control Center

ATC

Rescue Coordination Center

Distress Tracking Concept
GADSS CONCEPT
Distress Tracking Concept
GADSS CONCEPT
Distress Tracking Concept

• Technology under development.
• Action / re-action may not need to be the same as current procedures
• Tracking information availability
  – Cloud
  – SWIM
• Performance-based provisions
  – Not technology specific
  – Procedures need to be in place by 2021