



# SECOND HIGH LEVEL SAFETY CONFERENCE

## DAY 2

### 3 February 2015

*Please observe the following  
when inside the Assembly Hall*





**Theme 1:**  
**REVIEWING THE CURRENT SITUATION**

Topic 1.1

# ACHIEVEMENTS AND REMAINING WORK



# Theme 1: *Reviewing the Current Situation*

## Topic 1.1 *Achievements and Remaining Work*

WP	BATCH 3: <u>REGULATORY OVERSIGHT FOR THE EFFECTIVE IMPLEMENTATION OF PBN</u>
32	Addressing Impediments to Realizing the Safety Benefits of Performance-based Navigation (PBN) Procedures <i>(Presented by the ICAO Secretariat)</i>
100	Implementation of PBN flight procedures programme – A need for training and qualifying of the oversight personnel <i>(Presented by the African Civil Aviation Commission (AFCAC) on behalf of the African States)</i>



*Theme 1:*  
**REVIEWING THE CURRENT SITUATION**

Topic 1.2

# EMERGING SAFETY ISSUES





Emerging Issue

# Global Aircraft Tracking Initiatives



# NO TRACKING

*60 minute reporting environment*



*Incident at 1 minute*



Elapsed Time  
from Incident: **89** min



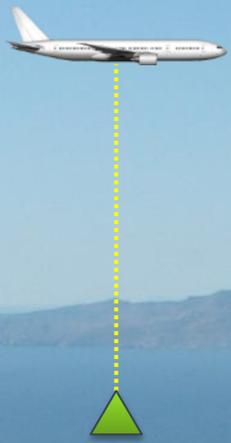
*EMERGENCY PHASE*



**RESCUE COORDINATION CENTER**

# NORMAL TRACKING

60 minute reporting environment



AOC tries to establish contact

Incident at 1 minute



Elapsed Time from Incident: **44** min

Elapsed Time from Incident: **89** min

**CURRENT**

EMERGENCY PHASE

**GADSS CONCEPT**



RESCUE COORDINATION CENTER



# DISTRESS TRACKING



## TRIGGER

- Automatic
- Manual
- Ground

## AUTONOMOUS



6 NM



Retrieval of CVR/DFR data

## Trigger Examples:

- ⊙ unusual attitudes
- ⊙ unusual speed conditions
- ⊙ loss of power on all engines
- ⊙ ground proximity warnings



AOC



RESCUE COORDINATION CENTER

**GADSS CONCEPT**



# Upcoming Normal Tracking SARPs

## Performance-based Standards and recommended practices for normal flight tracking

- No change to ATC procedures
- Establish operator responsibility to track
- Not technology-specific
- Establish communication protocol between Operator and ATC
- 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

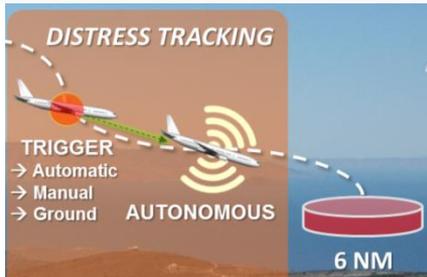
- State Letter

### November 2015

- Adopted

### November 2016

- Applicable



# Upcoming Distress Tracking SARPs

## 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
- **March 2015**
  - State Letter
- **March 2016**
  - Adopted
- **January 2021**
  - Applicable



# Retrieval of CVR and FDR Data SARPs

## Prescriptive standards and recommended practices for ADFR with a performance-based alternative for data retrieval

- ADFR prescriptive baseline
  - Recommendation for new aeroplanes from 2019
  - Applies to new aeroplane types from 2021
- Performance-based alternative
  - Not technology-specific
  - Optional for all aeroplanes from 2016
  - Incentive for early adoption as an alternative to ADFR

### Timelines

- **January 2015**
  - Preliminary review by ICAO ANC
- **March 2015**
  - State Letter
- **March 2016**
  - Adopted
- **November 2016**
  - Applicable
- **November 2019**
  - Applicable
- **November 2021**
  - Applicable

# Moving Forward on Normal Tracking

- **ICAO proposes an implementation initiative consistent with the Multidisciplinary Meeting on Global Tracking recommendations**
- **The implementation initiative will be designed to expedite integration of best practices in use today, including:**
  - Operator flight monitoring
  - Air traffic services
  - Search and Rescue
  - Civil/ Military cooperation
- **The implementation initiative will be conducted in a multi-national context**
  - Led by ICAO with support from States and industry stakeholders
  - Planning to begin immediately after HLSC, completion by 31 August 2015
  - Outputs will enhance guidance material used to advance implementation of normal tracking procedures

## GADSS Components

**Aircraft  
Systems**

**Air Traffic  
Services**

**Search &  
Rescue  
Systems**

**Information  
Management**

- Most lead time
- Forms the baseline for any future developments

Procedures developed to make full use of additional Aircraft capabilities

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

# Theme 1: *Reviewing the Current Situation*

## Topic 1.2 *Emerging Safety Issues*

WP	BATCH 1: <u>FLIGHT TRACKING (a)</u>
2	Concept of Operations to Enhance Global Flight Tracking <i>(Presented by the ICAO Secretariat)</i>
11	ATTF Report Regarding Routine Aircraft Tracking <i>(Presented by the ICAO Secretariat)</i>
48	Aircraft Locating and Emergency Response Tracking (ALERT) <i>(Presented by Ireland, Italy and Denmark)</i>
49	Enabling Global ATS Surveillance <i>(Presented by Canada)</i>
50	GADSS Concept Document <i>(Presented by Canada)</i>
74	Annex 12 and Annex 13: Missing aircraft <i>(Presented by Australia)</i>
91	Aircraft Tracking <i>(Presented by ICCAIA)</i>

### Related Information Papers:

IP/24, IP/30, IP/40

# Theme 1: *Reviewing the Current Situation*

## Topic 1.2 *Emerging Safety Issues*

WP	BATCH 1: <u>FLIGHT TRACKING (b)</u>
12	Progress Report on Global Flight Tracking, Including an Initial Plan for Development of SARPS <i>(Presented by the ICAO Secretariat)</i>
65	Aircraft tracking systems and extended CVRs duration <i>(Presented by Latvia on behalf of the EU and its Member States and other Member States of the ECAC and by EUROCONTROL)</i>
84	MH 370: Status update, lessons learnt and next steps <i>(Presented by Malaysia)</i>
97	Next steps related to global aircraft tracking <i>(Presented by IATA)</i>
99	Amendment to ICAO Standard regarding global flight tracking <i>(Presented by IFALDA)</i>

### Related Information Papers:

# Theme 1: *Reviewing the Current Situation*

## Topic 1.2 *Emerging Safety Issues*

WP	BATCH 1: <u>FLIGHT TRACKING (c)</u>
21	Establishing practice exercises to maintain the ability to respond in an integrated manner to abnormal flight behavior scenarios <i>(Presented by the ICAO Secretariat)</i>
53	Safety-related Agreements Between States: Search and Rescue Cooperation and Coordination <i>(Presented by Sudan)</i>
81	Challenges facing Hong Kong, China in search and rescue operations and accident investigation on the high seas <i>(Presented by China)</i>

### Related Information Papers:

IP/18, IP/19



Emerging Issue

# Risks to Civil Aviation arising from Conflict Zones



## TF RCZ – Work Program

Urgent objectives of the work programme were addressed in three pilot projects

- Use of the NOTAM system to distribute information
- Identification of information required by States to conduct risk assessments
- Development of a prototype system to share conflict zone information

In addition industry conducted three initiatives on:

- Identification of information required by operators to conduct risk assessments
- Improving processes to share operationally derived risk information
- The provision of information to passengers and flight crew regarding the use of airspace over or near conflict zones

## TF RCZ Outcomes

### The TF RCZ provided twelve recommendations including:

- Demonstration of a prototype for a centralized information sharing system to the HLSC in February 2015
- Development of new requirements or guidance material that should be integrated into the ICAO work programme
- Suggest further development of processes and criteria for the provision of information to passengers and flight crews

## Recommendations Related to a centralized info sharing system

### (HLSC/2015-WP/9)

- WG recommends a dedicated website where the details of the NOTAM are made available.
- WG recommends to combine NOTAMs and other types of information to support a comprehensive risk picture

### (HLSC/15-WP/33)

- TF recommends that ICAO develop a prototype for centralized information sharing to include NOTAMs and other types of information as defined by the NOTAM WG (HLSC/15-WP/13)
- TF recommends that guidance for conducting and sharing risk assessments related to conflict zones be refined and updated. (HLSC/15-WP10)

# Prototype for a centralized information sharing capability

## Capability specifications:

- Centralized repository of NOTAMs, AIC, AIP Supplements and other operator information provided by States
- Source of information must be identified – ICAO not responsible for information from anonymous sources
- No validation by ICAO of information provided
- Access-controlled inputs
- Public outputs

**Various levels of system complexity and service levels are feasible**

## System complexity of centralized information sharing capability (HLSC/15-WP/33)

<b>System Complexity</b> <b>1</b> (HLSC/15-WP/13)	<b>System Complexity</b> <b>2</b>	<b>System Complexity</b> <b>3</b>	<b>System Complexity</b> <b>4</b>	<b>System Complexity</b> <b>5</b>
Availability during office hours <u>90 %</u> IT up time  <ul style="list-style-type: none"> <li>✓ Validity dates and notifications</li> <li>✓ Display by State</li> </ul>	Availability during office hours <u>95 %</u> IT up time  <ul style="list-style-type: none"> <li>✓ Validity dates and notifications</li> <li>✓ Display by State</li> <li>✓ Display by FIR</li> </ul>	Availability 24/7/365 <u>99.9%</u> IT up time  <ul style="list-style-type: none"> <li>✓ Validity dates and notifications</li> <li>✓ Display by State</li> <li>✓ Display by FIR</li> <li>✓ Industry standard up-time reliability</li> <li>✓ Monitoring of potential unauthorized access</li> </ul>	Availability 24/7/365 <u>99.9%</u> IT up time  <ul style="list-style-type: none"> <li>✓ Validity dates and notifications</li> <li>✓ Display by State</li> <li>✓ Display by FIR</li> <li>✓ Industry standard up-time reliability</li> <li>✓ Monitoring of potential unauthorized access</li> <li>✓ GIS Display</li> <li>✓ Redundancy</li> </ul>	Availability 24/7/365 <u>99.9%</u> IT up time  <ul style="list-style-type: none"> <li>✓ Validity dates and notifications</li> <li>✓ Display by State</li> <li>✓ Display by FIR</li> <li>✓ Industry standard up-time reliability</li> <li>✓ Monitoring of potential unauthorized access</li> <li>✓ GIS Display</li> <li>✓ Redundancy</li> <li>✓ Data traceability and user auditing</li> <li>✓ Multi-factor authentication</li> <li>✓ Subscription and Route based Alerts</li> </ul>

# Centralized information sharing capability

ICAO > Safety > TFRCZ Prototype

## Conflict Zone Information Prototype

Select an ICAO Member State to view NOTAMS, aeronautical information circulars (AIC), and other supplemental information that has been flagged as applying to that State. Please note that information on this site is provided by the ICAO Member State referenced in the source and is not independently validated by ICAO or any other State or International Organization. Please refer to the terms of use for further information.

See information applicable to:

Libya ▼

Info Type	Reference	Title	Source State	Actions
AIC	Letter 14-01-2015	Updated Threats to Civil Aviation in Libya	United States of America	🔍 View
NOTAM	B2251/14	HAZARDOUS SITUATION IN LIBYAN AIRSPACE	United Kingdom of Great Britain and Northern Ireland	🔍 View

# Theme 1: *Reviewing the Current Situation*

## Topic 1.2 *Emerging Safety Issues*

WP	BATCH 2: <u>RISK TO CIVIL AVIATION ARISING FROM CONFLICT ZONES (a)</u>
3	<b>Progress report on the work programme</b> to address risks to civil aviation arising from conflict zones <i>(Presented by the ICAO Secretariat)</i>
9	Feasibility of <b>using the NOTAM system</b> for <b>sharing</b> information on risks arising from conflict zones <i>(Presented by the ICAO Secretariat)</i>
10	Development of <b>best practice guidance</b> for <b>conducting and sharing</b> risk assessments. <i>(Presented by the ICAO Secretariat)</i>
13	Initial prototype for a <b>centralized global information capability</b> to consolidate and share information <i>(Presented by the ICAO Secretariat)</i>
33	Report of the <b>Task Force on Risks to Civil Aviation Arising from Conflict Zones</b> <i>(Presented by the ICAO Secretariat)</i>

### Related Information Papers:

# Theme 1: *Reviewing the Current Situation*

## Topic 1.2 *Emerging Safety Issues*

WP	BATCH 2: <u>RISK TO CIVIL AVIATION ARISING FROM CONFLICT ZONES (b)</u>
64	Preventive measures to avoid military actions against civil aircraft <i>(Presented by the Interstate Aviation Committee)</i>
67	Issues raised by recent accidents with regards to the conduct of the investigation <i>(Presented by Latvia on behalf of the EU and its Member States and other Member States of the ECAC and by EUROCONTROL)</i>
82	Civil Military Coordination <i>(Presented by Sweden, Canada, Denmark, Finland, Netherlands, Poland, the United Kingdom and EUROCONTROL)</i>

### Related Information Papers:

IP/31, IP/32



## Emerging Issue

# Preparedness planning and response to public health events affecting civil aviation



# Recognizing the role of Aviation in the Ebola Outbreak and other Public Health Emergencies

- **Serious communicable disease** (e.g. Ebola) is spread by air travel and aviation is severely affected by public health events
- Aviation sector planning/response to public health events **could be improved**
- Medical departments of civil aviation authorities constitute an **underutilized resource**
- The **Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA)** assists States to develop & improve multi-sector preparedness plans

# ICAO-WHO CAPSCA Global Symposium

- **Date:** 28 – 30 April 2015, Montréal
- CAPSCA achievements and lessons learned
- How to **prepare for an outbreak**
- Latest **guidance** and plans
- Future CAPSCA events and multi-sector collaboration



# Theme 1: *Reviewing the Current Situation*

## Topic 1.2 *Emerging Safety Issues*

WP	<b>BATCH 3: <u>PREPAREDNESS PLANNING AND RESPONSE TO PUBLIC HEALTH EVENTS AFFECTING CIVIL AVIATION</u></b>
15	Recognizing the Role of Aviation in the Ebola Outbreak and Other Public Health Emergencies <i>(Presented by the ICAO Secretariat)</i>

Related Information Papers:



*Theme 1:*  
**REVIEWING THE CURRENT SITUATION**

Topic 1.2

# EMERGING SAFETY ISSUES



# Theme 1: *Reviewing the Current Situation*

## Topic 1.2 *Emerging Safety Issues*

WP	BATCH: <u>OTHER</u>
36	Extreme Meteorological Conditions ( <i>Presented by Latvia on behalf of the EU, its Member States &amp; other Member States of ECAC; &amp; EUROCONTROL</i> )

Related Information Papers:



*Theme 2:*

**FUTURE APPROACH TO MANAGE AVIATION SAFETY**

Topic 2.1

# STATE SAFETY PROGRAMME



## Theme 2: Future Approach to Manage Aviation Safety

### Topic 2.1 State Safety Programme

WP	BATCH 1: <u>IMPLEMENTING SSP PROVISIONS</u>
8	Achieving SSP Implementation <i>(Presented by the ICAO Secretariat)</i>
31	Challenges in Implementation of a Safety Management System <i>(Presented by Turkey)</i>
37	Moving Beyond Compliance <i>(Presented by Latvia on behalf of the EU and its Member States and other Member States of the European Civil Aviation Conference, and by EUROCONTROL)</i>
47	Requirements and Challenges of Harmonized Global Safety Performance Indicators <i>(Presented by CANSO)</i>
56	A CAA roadmap for safety intelligence and management implementation <i>(Presented by the United Arab Emirates)</i>
61	Risk modelling for establishment of a total aviation system <i>(Presented by the United Arab Emirates)</i>
63	Safety performance and measurement process <i>(Presented by the United Arab Emirates)</i>
69	Implementation of State safety programme and safety management system <i>(Presented by the African Civil Aviation Commission (AFCAC) on behalf of the African States)</i>
71	Verification of safety management system (SMS) <i>(Presented by China)</i>
72	Development of safety management regulations <i>(Presented by China)</i>
73	Analysis of the Safety Information Reported through the Mandatory Safety Reporting Systems of Japan <i>(Presented by Japan)</i>
87	Effective implementation of safety oversight system <i>(Presented by Singapore)</i>
90	Practical implementation of the State safety programme (SSP) <i>(Presented by the Republic of Korea)</i>

#### Related Information Papers:

IP/1, IP/2, IP/4, IP/5, IP/7, IP/10, IP/12, IP15, IP/29, IP/33 and IP/39



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**THANK YOU**