



Developing and Implementing Regional LOC-I Safety Enhancements

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5 W's of RASG-MID

What is RASG-MID?

- Regional Aviation Safety Group for the MID region

When & Where was it established?

- ICAO Council approval on 25 May 2010 to establish RASGs
- RASG-MID kick off on 18 – 19 September 2011 in Cairo, Egypt

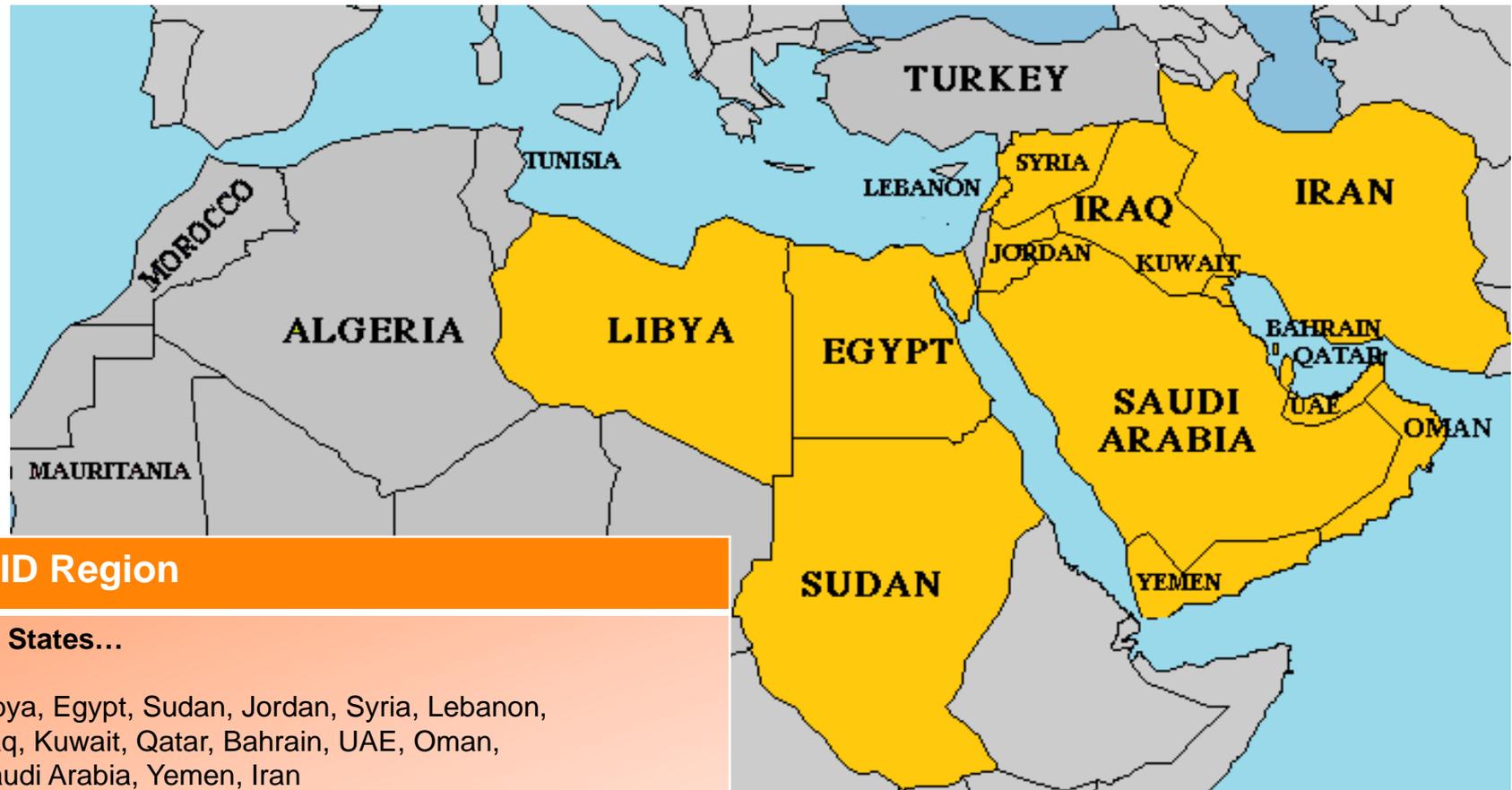
Why was it established?

- Develop an integrated data driven strategy, and implement a work program that supports a regional performance framework for the management of safety on the basis of the GASP

Who can participate?

- Members: Contracting states (ICAO MID region)
- Observers: Non contracting states & Organizations

RASG-MID Contracting States...



MID Region

15 States...

Libya, Egypt, Sudan, Jordan, Syria, Lebanon, Iraq, Kuwait, Qatar, Bahrain, UAE, Oman, Saudi Arabia, Yemen, Iran

RASG-MID Permanent Observers



RASG-MID Structure



Annual Safety Report Team (ASRT)

What we do

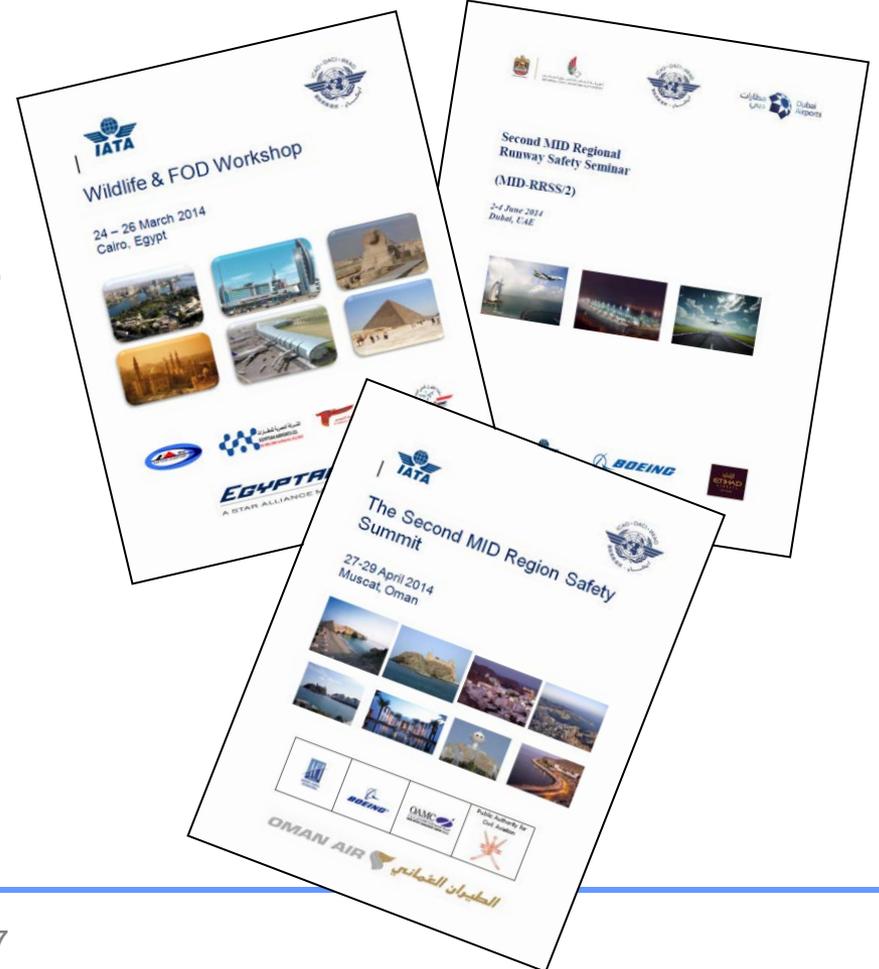
- ✓ Collect safety information from different stakeholders
- ✓ Identify & address aviation safety risks in the MID region
- ✓ Produce the annual safety report
 - 1st Edition, Nov 2012
 - 2nd Edition, Jan 2014
 - 3rd Edition, March 2015
 - 4th Edition, In progress
- ✓ Data sources: States & Organizations



Regional Aviation Safety Team (RAST)

What we do

- ✓ Develop & implement SEIs and DIPs related to focus areas identified by the ASRT
- ✓ SEIs & DIPs include:
 - ✓ Development of training & guidance material
 - ✓ Holding regional workshops & seminars
 - ✓ Go teams



Safety Support Team (SST)

What we do

- ✓ Support the RASG-MID steering committee with safety initiatives not directly related to key focus areas such as:
 - ✓ State safety program (SSP)/Safety Management Systems (SMS) implementation
 - ✓ Establishment of Regional safety oversight organizations (RSOO)
 - ✓ English language proficiency (ELP)...etc

Workflow for the three teams...



RASG-MID uses different types of safety information



REACTIVE: safety analysis based on accidents and serious incidents in MID region

PROACTIVE: includes analysis of existing State conditions (ICAO SARPs implementation, traffic variations), IOSA, ISAGO audit results, and STEADES data

PREDICTIVE: based on analysis of Flight Operations Quality Assurance (FOQA) de-identified data, oriented towards identifying potential future hazards for initiating corresponding mitigation actions – an area for improvement!

Safety Data Analysis

Risk assessment based on:

- ✓ Frequency
- ✓ Severity (fatality)

Accident Category	Frequency	Severity	Frequency*Severity
Runway/ Taxiway Excursion	1*	2	2
Ground Safety	1*	3	3
Gear up Landing / Gear Collapse	3	3	9
Hard Landing	4	3	12
Loss of Control In Flight	5	1	5
Controlled Flight Into Terrain	6	1	6



Top Risk Areas in the MID Region

- Runway Safety
- **Loss of Control In-flight (LOC-I)**
- System Component Failure – **NEW!**





Loss of Control – Inflight (LOC-I)

MID- Regional Aviation Safety Team (RAST)

MID-RAST Process

1. Develop short and medium term regional safety priorities based on identified Focus Areas (FAs)
2. Develop SEIs for the identified FAs;
3. provide recommended actions through the development of Detailed Implementation Plans (DIPs)
4. monitor the implementation of DIPs and provide feedback to the RSC; and
5. Review DIPs with MID-RSC & RASG-MID
6. Approval of DIPs by RASG-MID
7. Implementation & Monitor progress (IATA MENA + stake holders)

Loss of Control In-Flight (LOC-I)

- LOC-I/1: Airplane State awareness (ASA) -Low airspeed alerting
- LOC-I/2: Standard Operating Procedures effectiveness and adherence ;and
- LOC-I/3: ASA-Training-Flight Crew Training Verification and Validation

LOC-I/1 :Airplane State awareness (ASA)- Low airspeed alerting

- Compiled statistical data to identify the number of operators and their fleet in MID region.
- 1481 aircraft registered in the MID Region .
- consulted with manufacturers of aircraft to determine the status of their fleet .

ASA MID fleet Status (1)

- 949 New Generation aircraft with glass cockpit having the provision of low speed alert .Represents 64% compliance rate
- 217 Classic western built aircraft representing 15 % of the total fleet in Mid Region.
- 123 Regional Jets representing 8%.
- 124 Eastern built aircraft representing 8%, mainly in Iran, Libya and Sudan.
- 68 Turbo Prop aircraft representing 5 %.

ASA fleet Status (2)

- Basic on Boeing **787, 777, 747-8, 767-400** {with the Large Format Display Systems (LFDS)} and **747-400**.
- Optional on Boeing **737-600/700/800/900** (service bulletin available (SB 737-34A2292)).
- No Option on Boeing **757, 727, MD-90, MD-80, 737-100/200/300/400/500** or the **767**.
- Basic on Airbus **A320 family, A330, A340, A350 and A380**
- Not basic on **A300 & A310**.

LOC-I/1 :Airplane State awareness (ASA)-Low airspeed alerting

The ICAO ANC highlighted that the work on Low Airspeed Alerting provisions was excellent material and the ANC should consider referring this work to the AIRP for further review.

LOC-I/2 :SOPs effectiveness and adherence

- Many aviation safety organizations recently reaffirmed the importance of SOPs.
 - identified deficiencies in SOPs as contributing causal factors in aviation accidents.
 - commonly cited deficiencies involving flight crews **non-compliance** with established procedures; or the **non-existence** of established procedures in some manuals.
- Airlines should consult with manufacturers to check that SOPs are consistent with current manufacturer recommendations with regards to LOC and CIFT.

LOC-I/3 :Flight Crew Training (1)

- Upset prevention and recovery training, including the following:
 1. Qualification of flight simulators to satisfactorily represent aircraft characteristics for proposed scenarios.
 - Coordinate with airplane and simulator manufacturers to ensure that simulators satisfactorily represent aircraft characteristics for proposed scenarios.
 2. Approach-to-stall training in realistic scenarios
 3. Upset prevention and recovery training (UPRT) realistic scenarios

LOC-I/3 :Flight Crew Training (2)

- Approach-to-stall training in realistic scenarios. (i.e., up to the stall warning activation):
 - approach-to-stall with the autopilot engaged (including auto-throttles disengaged, inoperative or not installed)
 - a demonstration of recognition and recovery from initial improper response to approach-to-stall.
 - high-altitude approach-to-stall (service ceiling for the weight)
 - low-altitude approach-to-stall (terrain critical) and recovery with ground proximity warning system (GWPS) alerts
 - air data system failures that can lead to stall

LOC-I/3 :Flight Crew Training (3)

- Upset prevention and recovery training (UPRT) realistic scenarios including but not limited to:
 - Upsets encountered with and without auto-flight engaged.
 - Upsets occurring in instrument meteorological conditions (IMC)
 - Sub-threshold roll (imperceptible roll rate) in IMC
 - Pilot-induced upsets
 - Air data system failures (e.g., unreliable airspeed)

Ref. Documentations

- IATA Guidance Material and Best Practices for the Implementation of Upset Prevention and Recovery Training (*First edition effective June 2015*)
- ICAO Doc.10011 Manual on Aeroplane Upset Prevention and Recovery Training
- Annex 6 ;ICAO AMENDMENT 38 on UPRT

THANK YOU



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