International Civil Aviation Organization

Third Meeting of the Middle East Regional Aviation Safety Group (RASG-MID/3)

(Kuwait, 27 - 29 January 2014)

Agenda Item 3: Regional Performance Framework for Safety

THE MID REGION SAFETY STRATEGY

(Presented by the Secretariat)

SUMMARY

This paper provides updates on the implementation of the MID Region Safety Strategy.

Action by the meeting is at paragraph 3.

REFERENCES

- DGCA-MID/2 Report
- RSC/2 Report

1. INTRODUCTION

1.1 The DGCA-MID/2 meeting (Jeddah, Saudi Arabia, 20 -22 May 2013) reiterated the need to establish regional and national safety priorities and targets in line with the Global Aviation Safety Plan (GASP), which provides the framework for the development of regional, sub-regional and national implementation plans.

1.2 The meeting reviewed and endorsed the MID Region Safety Strategy, which was developed by the First MID Safety Summit (Bahrain, 28-29 April 2013) as at **Appendix A** to this working paper. The MID Region Safety Strategy includes the following Safety "Metrics" for the monitoring of safety performance:

1) Accidents and serious incidents;
2) Runway and Ground Safety (RGS);
3) In-Flight Damage (IFD);
4) Loss of Control In-Flight (LOC-I);
5) Controlled Flight Into Terrain (CFIT);
6) Safety oversight capabilities (USOAP-CMA, IOSA and ISAGO);
7) Aerodrome Certification; and
8) SSP/SMS Implementation.

2. DISCUSSION

2.1 The RASG-MID is the governing body responsible for the review and update of the MID Region Safety Strategy, as deemed necessary.

2.2 The meeting may wish to note that the RSC/2 meeting (Amman, Jordan, 28-30 October 2013) agreed that the ASRT, SST and ICAO Secretariat should take necessary measures to collect/consolidate necessary information for determining the values of the different safety indicators included in the MID Safety Strategy.

2.3 In accordance with the Strategy, the first safety target is to reduce the accidents rate to be in line with the global average by the end of 2017. In this respect, it's to be highlighted that the accidents rate in the MID Region for 2012 was (**2.13** accidents per million departures) which is slightly above the world rate (**2.06**) for the same year. However, the rate of fatal accidents in the MID Region was (**0.71**) which is higher than the world rate (**0.41**) by 42.2% for 2012.

2.4 The safety targets for Runway and Ground Safety (RGS) and LOC-I related accidents are to reduce these accidents by 50% by the end of 2017, while the safety target for CFIT related accidents is to maintain accidents below the global rate. The table below shows the numbers of Runway Excursions, LOC-I and CFIT related accidents as well as the percentage of these accidents categories to all accidents in the MID Region for the period (2008-2012):

Year	2008	2009	2010	2011	2012
MID Total accident	8	12	6	6	2
MID RWY Excursions-related accidents	1	2	1	3	1
% of All Accidents	12.5%	16.7%	16.7%	50%	50%
MID LOC-I -related accidents	3	3	0	1	0
% of All Accidents	37.5%	25%	0%	16.7%	0%
MID In-flight Damage -related accidents	2	1	1	0	0
% of All Accidents	25%	8.3%	16.7%	0%	0%
MID CFIT -related accidents	0	0	1	0	1
% of All Accidents	0%	0%	16.7%	0%	50%

2.5 According to the table above, the trends related to Runway Excursions and LOC-I are fluctuated from year to another. Therefore, it is proposed to change these safety targets to be similar to the one related to CFIT, which is "to maintain accidents below the global rate".

2.6 The CFIT accident rate in the MID Region for 2012 is (**0.71**) which is above the world rate (**0.16**) for the same year by 77.5%. However, the MID Region had had no CFIT accident in 2008, 2009 and 2010, and had one accident in 2011.

2.7 With regard to IFD-related accidents, although the safety target is to reduce accidents by 50% by the end of 2017, there was no accident in the MID Region for 2011 and 2012. In addition,

IFD is no longer considered as one of the main risk areas according to the matrix of identification and prioritization of the main FAs, which was developed by the RSC/2 meeting. Therefore, the meeting may wish to consider the removal of IFD from the MID Region Safety Strategy.

2.8 With respect to the safety oversight systems in the MID Region, the main safety target is to have all the 15 States with at least EI (60%) by the end of 2016, and no Significant Safety Concern (SSC) by end of 2016. Presently, 10 States of the audited States (Only 13 States have been audited) have an overall EI over 60%. There is only one unresolved SSC in the Region. In addition, there are 6 States with an EI less than 60% for more than 2 audit areas. It's to be highlighted also that 8 States have an EI less than 60% for ANS.

2.9 With respect to the number of certified international aerodromes, the safety target is to have 50% of the international aerodromes certified by the end of 2015 and 80% by the end of 2016. Currently, 41% of all International Aerodromes are certified (28 out of 68).

2.10 In the area of SSP/SMS, the first safety target for SSP is to have 5 States completed implementation of SSP (Phase 1) by the end of 2014, 10 States by the end of 2016 and all the 15 States by the end of 2017. The first safety target for SMS is to have 40% of the service providers completed implementation of SMS (Phase 1) by the end of 2014, 75% by the end of 2015 and all the service providers by the end of 2016.

2.11 In order to assess current SSP/SMS implementation status in the MID Region, the ICAO MID Regional Office, through State Letter Ref.: AN 11/21.1-13/195 dated 24 July 2013, requested States to complete an SSP/SMS Questionnaire (capturing Phase 1 only, as a first step). The meeting may wish to note that only four (4) States provided replies to the mentioned State Letter. Based on these replies, only one State indicated that Phase 1 of SSP implementation had been completed and all of its service providers had completed implementation of SMS (Phase 1).

2.12 The meeting may wish to consider the use of the following Safety Indicator for the monitoring of SSP implementation "Number of States having completed the SSP gap analysis on iSTARS".

2.13 In connection with the above, the meeting may wish to note that an update on the implementation of the MID Region Safety Strategy and the achievement of the agreed Safety Targets will be reported to all safety partners and stakeholders during the the Second MID Region Safety Summit (Muscat, Oman, 27 - 29 April 2014) for further review and update.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) review and update as appropriate the MID Region Safety Strategy;
b) agree on new safety targets related to RGS and LOC-I;
c) agree to remove IFD from the MID Region Safety Strategy;
d) agree to use an additional Safety Indicator for the monitoring of SSP implementation "Number of States having completed the SSP gap analysis on iSTARS";
e) consider to use "Safety Theme" in the Strategy instead of "Safety Metric"; and
f) urge States and stakeholders to provide necessary information/feedback to the ICAO MID Regional Office related to all the Safety Indicators included in the MID Region Safety Strategy.

APPENDIX A

Middle East - Regional Aviation Safety Group (RASG-MID)

MID Region Safety Strategy

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MID Region Safety Strategy

Strategic Safety Objective:

Continuous improvement of aviation safety through a progressive reduction of the number of accidents and related fatalities in the MID Region to be in line with the global average, based on reactive, proactive and predictive safety management practices.

Safety Objectives:

States and regions must focus on their safety priorities as they continue to foster expansion of their air transport sectors.

The ICAO Global Aviation Safety Plan (GASP) establishes targeted safety objectives and initiatives while ensuring the efficient and effective coordination of complementary safety activities between all stakeholders.

The GASP includes a framework comprised of measurable objectives, supported by Safety Performance Areas and associated safety initiatives.

The MID Region safety objectives are in line with the global safety objectives and address specific safety risks identified within the framework of the Middle East Regional Aviation Safety Group (RASG-MID), based on the analysis of available safety data.

The enhancement of communication and information exchange between aviation Stakeholders and their active collaboration under the framework of RASG-MID would help achieving the MID Region safety objectives in an expeditious manner.

Near-term Objective (2017):

In the near term, States will ensure that they have the resources as well as the legal, regulatory and organizational structures necessary to fulfill their safety oversight obligations and in collaboration with all stakeholders achieve the following near-term objectives:

- all MID States should establish an effective safety oversight system and progressively increase the USOAP-CMA Effective Implementation (EI) score with a baseline of 60% for all States by 2017, through, mainly the reinforcement of the entities responsible to carry out regulatory and safety oversight functions with qualified and trained technical staff, and/or the delegation of certain safety oversight functions to a Regional Safety Oversight Organization (RSOO);
- reduce Runway Excursions and Incursions accidents in the MID Region by 50% by 2017, through establishment and activation of Runway Safety Teams (RST's), Aerodromes Certification, and implemetation of Airport Safety Managmennt System (SMS);
- reduce In-flight Damage accidents in the MID Region by 50% by 2017, through the development of regional guidance, and conducting awareness training;
- reduce Loss Of Control In-flight (LOC-I) related accidents in the MID Region by 50% by 2017, through appropriate Standard Operating Procedures (SOPs) related to mode awareness and energy state management, and Advance Manoeuvers Training;
- maintain the rate of Controlled Flight Into Terrain related accidents in the MID Region below the global rate, through pilot training, use of Fatigue Risk Management Systems (FRMS) framework, and implementation of PBN; and
- States with an effective safety oversight score (EI) over 60% proceed to fully implement SSP following a phased approach supported by high-level management with the availability of necessary resources and safety promotion through the provision of appropriate training, communication and dissemination of safety information and improvement of the safety culture.

Mid-term Objective (2022):

The mid-term objective is to achieve full implementation of State Safety Programme (SSP) by States and Safety Management Systems (SMS) by concerned service providers (namely air navigation service providers, airlines, airports and other aviation stakeholders) to facilitate the proactive management of safety risks. The mid-term objective therefore represents the evolution from a purely compliance-based oversight approach to one which proactively manages risks through the identification and control of existing or emerging safety issues. In addition, service providers will strive to gain safety benefits from the common implementation of the different modules of the Aviation System Block Upgrades (ASBUs). The target implementation date for the mid-term objective is 2022.

Long-term Objective (2027):

The focus of the long-term objective is the implementation of proactive and predictive systems that ensure safety in a real-time, collaborative decision-making environment. Sustainable growth of the international aviation system will require the introduction of advanced safety capabilities (e.g. full trajectory-based operations) that increase capacity while maintaining or enhancing operational safety margins and manage existing and emerging risks. The long-term safety objective is intended to support a collaborative decision making environment characterized by increased automation and the integration of advanced technologies on the ground and in the air, as contained in ICAO‘s Aviation System Block Upgrades (ASBUs) strategy. The target implementation date for the long-term objectives is 2027.

Measuring and monitoring Safety Performance:

The monitoring of safety performance and its enhancement is achieved through identification of relevant Safety Metrics and Indicators as well as the adoption and attainment of Aviation safety Targets.

The following are the MID Region Safety Metrics endorsed for the monitoring of safety performance:

1) Accidents and serious incidents;

2) Runway and Ground Safety (RGS);

3) In-Flight Damage (IFD)

4) Loss of Control In-Flight (LOC-I);

5) Controlled Flight Into Terrain (CFIT);

6) Safety oversight capabilities (USOAP-CMA, IOSA and ISAGO);

7) Aerodrome Certification; and

8) SSP/SMS Implementation.

The MID Region Safety Indicators and Safety Targets are detailed in the Table below:

	Metric	Safety Indicator	Safety Target	Action Plan
1	Accidents and serious incidents	Number of accidents per million departures	Progressively reduce the accident rate to be in line with the global average by the end of 2017.	- Establish a regional framework for safety data sharing to effectively analyze trends, identify risks and hazards, and develop mitigation strategies - Progressively implement the Detailed Implementation Plans (DIPs) based on the developed Safety enhancement Initiatives (SEIs) under MID-RAST and MID-SST.
		Number of fatal accidents per million departures	Progressively reduce the rate of fatal accidents to be in line with the global average by the end of 2017.	
2	Runway and Ground Safety (RGS)	Number of Runway excursion related accidents as a percentage of all accidents	Reduce Runway Excursions related accidents by 50% by the end of 2017	- Establishment and support of local Runway Safety Teams. - Establishment of Regional RST GO-Team. - Effective reporting system to exchange and analyze safety information. - Runway Safety Seminar/Workshop. - Adopt specific regulations related to runway safety. - Identify hazards and mitigation measures on runway excursions/incursions and un-stabilized approach, and develop guidance material and specific training.
		Number of Runway incursion related accidents as a percentage of all accidents	Reduce Runway Incursions related accidents by 50% by the end of 2017	

	Metric	Safety Indicator	Safety Target	Action Plan
3	In-Flight Damage (IFD)	Number of In-flight Damage related accidents as a percentage of all accidents	Reduce In-flight Damage related accidents by 50% by the end of 2017	- Identifying and understanding wild life habitat around airports, and methods used by the airport for controlling hazardous wildlife by assessing airports in the region - Establishing a regional guidance document that addresses key issues such as wildlife and vegetation - Convening a workshop for pilots and ATCOs to increase awareness on wildlife avoidance during flight
4	Loss of Control In-Flight (LOC-I)	Number of LOC-I related accidents as a percentage of all accidents	Reduce LOC-I related accidents by 50% by the end of 2017	- Upset Prevention and Recovery Training or AMT - Adopt ICAO UPRT Manual (2014) - Develop legislative and regulatory framework that supports data protection for individual reporters and data providers - Utilize FDM , Voluntary Reporting and LOSA for trend analysis and identifying precursors - Emphasis on robust standard operating procedures (SOPs) and crew resource management (CRM) through training, monitoring and validation

	Metric	Safety Indicator	Safety Target	Action Plan
				- Develop and implement Fatigue Risk Management Strategies - Encourage aircraft manufacturers to pursue innovation in practical and cost effective technology to mitigate LOC risks - Address ATC contribution to potential LOC events through guidance material, awareness workshop, and training.
5	Controlled Flight Into Terrain (CFIT)	Number of CFIT related accidents as a percentage of all accidents	Maintain CFIT related accidents below the global rate	- Develop a regionally customized CFIT training and guidance material provided to all air transport operators and Training Centers - Embodying FRMS within individual organizations' SMS - Implementing of PBN and APV operations (Approaches with Vertical guidance) in the MID region in a phased approach: ➢ 30% in Dec 2015 ➢ 70% in Dec 2018 ➢ 100% in Dec 2020 - Mandating RNP-AR approaches for approaches with unacceptably high CFIT risk

	Metric	Safety Indicator	Safety Target	Action Plan
6	Safety oversight capabilities (USOAP-CMA, IOSA and ISAGO)	USOAP-CMA Effective Implementation (EI) results: a. Number of States with an EI score less than 60% for more than 2 areas (LEG, ORG, PEL, OPS, AIR, AIG, ANS and AGA) b. Number of States with an overall EI over 60%	Progressively increase the USOAP-CMA EI scores/results: a. Max 3 States with an EI score less than 60% for more than 2 areas (i.e. Min 12 States having at least 60% EI for 6 out of the 8 areas) and an overall EI over 60%, by the end of 2015; and b. all the 15 MID States to have at least 60% EI by the end of 2016 .	- Availability of sufficient number of qualified and trained technical staff, to carry out regulatory and safety oversight functions in an effective manner; - Establishment of Regional Safety Oversight Organization(s) (RSOOs) to enhance safety oversight capabilities of member States; - ICAO assistance to States through the organization of Continuous Monitoring Approach (CMA) Workshops, mission to States, etc.
		Number of Significant Safety Concerns	a. States resolve identified Significant Safety Concerns as a matter of urgency and in any case within 12 months from their identification b. No significant Safety Concern by end of 2016	
		Use of the IATA Operational Safety Audit (IOSA), to complement safety oversight activities	a. Maintain at least 60% of the MID airlines to be certified IATA-IOSA by the end of 2015 at all times b. All MID States to accept the IATA Operational Safety Audit (IOSA) as an acceptable Means of Compliance (AMC) by 2015 to complement their safety oversight activities.	- All MID States to mandate all airlines with an Air Operator Certificated issued by a State accredited to MID (other than air taxi or general aviation) to obtain an IATA Operational Safety Audit (IOSA) certification - IATA to conduct awareness training and workshops for States and airlines about the use and benefit of IOSA

	Metric	Safety Indicator	Safety Target	Action Plan
				- Use of IOSA by States to complement oversight activities such as aircraft leasing, issuing FOC for Hajj flights, etc.
		Number of Ground Handling service providers in the MID Region having the IATA Safety Audit for Ground Operations (ISAGO) certification, as a percentage of all Ground Handling service providers	a. 50% of the Ground Handling service providers to be certified IATA-ISAGO by the end of 2015 b. all Ground Handling service providers to be certified IATA-ISAGO by the end of 2017 c. The IATA Ground Handling Manual (IGOM) endorsed as a reference for ground handling safety standards by all MID States by end of 2015.	- All MID States to mandate all Ground Handling service providers at all airports to obtain an IATA Safety Audit for Ground Operations (ISAGO) certification - IATA to conduct awareness training and workshops for States, Ground Handling service providers, and airlines about the use and benefit of ISAGO - Use of ISAGO by States to complement oversight activities such as out-stations audits and qualifying new Ground Handling service providers.
7	Aerodrome Certification	Number of certified international aerodrome as a percentage of all international aerodromes in the MID Region	a. 50% of the international aerodromes certified by the end of 2015 b. 80% of the international aerodromes certified by the end of 2016	- Establish process and identify a certification model - SMS implementation - Airport Emergency Plan. - Review initial and refresher training to ensure aerodromes certification requirements are met.

	Metric	Safety Indicator	Safety Target	Action Plan
				- Develop regional guidance and a phased approach of aerodromes certification implementation. - Conduct airport visits and airport technical missions to improve maintenance of runways and runway/taxiway related lighting and markings in accordance with Annex 14
8	SSP/SMS Implementation	Number of States having completed implementation of SSP Phase 1	a. 5 States by the end of 2014; b. 10 States by the end of 2015; and c. all the 15 MID States by the end of 2016.	- Improvement of safety culture; - Establishment of effective reporting systems which include mandatory and voluntary reporting systems; - Safety training and awareness (SSP, SMS, etc), including high-level management safety briefings; - Internal & external communication and dissemination of safety information; - Sharing of safety data at national and regional level; - Sharing of best practices; - ICAO SSP, SMS and ECCAIRS trainings, including CBT; - Regional Seminars and Workshops on safety management (SSP/SMS, Annex 19, etc);
		Number of States having completed implementation of SSP Phase 2	a. 5 States by the end of 2015; b. 10 States by the end of 2016; and c. all the 15 MID States by the end of 2017.	
		Number of States having completed implementation of SSP Phase 3	a. 5 States by the end of 2016; b. 10 States by the end of 2017; and c. all the 15 MID States by the end of 2018.	

	Metric	Safety Indicator	Safety Target	Action Plan
				- Establishment of Regional Safety Oversight Organization(s) (RSOO) to assist States in the implementation of SSP in an expeditious manner.
		Number of Service Providers having completed implementation of SMS Phase 1, as a percentage of all service providers required to implement SMS	a. 40% of the service providers having completed implementation of SMS Phase 1 by the end of 2014; b. 75% of the service providers having completed implementation of SMS Phase 1 by the end of 2015; and c. all the service providers having completed implementation of SMS Phase 1 by the end of 2016	- Improvement of safety culture; - Establishment of effective reporting systems which include mandatory and voluntary reporting systems; - Safety training and awareness (SSP, SMS, etc), including high-level management safety briefings; - Internal & external communication and dissemination of safety information; - Sharing of safety data at national and regional level; - ICAO SSP, SMS and ECCAIRS trainings, including CBT; - Regional Seminars and Workshops on safety management (SSP/SMS, Annex 19, etc).
		Number of Service Providers having completed implementation of SMS Phase 2, as a percentage of all service providers required to implement SMS	a. 40% of the service providers having completed implementation of SMS Phase 2 by the end of 2015; b. 75% of the service providers having completed implementation of SMS Phase 2 by the end of 2016; and c. all the service providers having completed implementation of SMS Phase 2 by the end of 2017	
		Number of Service Providers having completed implementation of SMS Phase 3, as a percentage of all service providers required to implement SMS.	a. 40% of the service providers having completed implementation of SMS Phase 3 by the end of 2016; b. 75% of the service providers having completed implementation of SMS Phase 3 by the end of 2017; and	

	Metric	Safety Indicator	Safety Target	Action Plan
			c. all the service providers having completed implementation of SMS Phase 3 by the end of 2018	

Note: The different phases of implementation of SSP and SMS as defined in the Safety Management Manual (Doc 9859)*

Action Plans:

RASG-MID through its activities under the various safety teams will continue to develop, update and monitor the implementation of Action Plans to achieve the safety targets.

A progress report on the implementation of the Action Plans and achieved targets will be presented to the MID Safety Summit.

Governance:

The MID Region Safety Strategy is to be endorsed by the MID States' Directors General of Civil Aviation.

The MID Region Safety Strategy will guide the work of RASG-MID and all its member States and partners.

The RASG-MID will be the governing body responsible for the review and update of the Strategy, as deemed necessary.

Progress on the implementation of the MID Region Safety Strategy and the achievement of the agreed Safety Targets will be reported to the ICAO Air navigation Commission (ANC), through the review of the RASG-MID reports; and to the stakeholders in the Region during the MID Region Safety Summits.

-END-