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**

UPDATE ON THE SIEs & DIPs RELATED TO LOC-I

(Presented by LOC-I Coordinator)

SUMMARY

This paper presents the Safety Enhancement Initiatives (SEIs) and one Detailed Implementation Plan (DIP) to mitigate risks of LOC-I.

Action by the meeting is at paragraph 3.

1.   INTRODUCTION

1.1   LOC-I was identified as one of the high risk areas to be addressed within the framework of RASG-MID.

2.   DISCUSSION

2.1   The MID-RAST agreed to develop three SEIs and one DIP related to LOC-I.

2.2   The RSC/2 meeting reviewed the SEIs and DIP for LOC-I and agreed to delay the implementation of the DIP related to LOC-I until May 2014, due to the fact that ICAO-HQ will host the Loss of Control In-flight (LOC-I) Symposium Montreal, from 20 to 22 May 2014, and is working with stakeholders (ICATEE, etc) on the development of a comprehensive Manual of Upset Prevention and Recovery Training with sections pertaining to pilots, instructors, training providers and regulators. It will be referred to in ICAO Annex 1 and Annex 6. Specific text will also be added to ICAO Doc. 9868 PANS-TRG. An addendum to ICAO Doc. 9625 Manual of Criteria for the Qualification and Testing of Flight Simulation Training Devices (FTSD) will include FSTD Recommendations.

2.3   The Commercial Aviation Safety Team (CAST) has released a new set of SEIs 192-211, related to Aircraft State Awareness for both energy state and attitude state of the aircraft. These have just been approved by CAST and released for dissemination and action. The link to CAST SEIs is: (http://www.skybrary.aero/index.php/Category:CAST_SE).

3.   ACTION BY THE MEETING

3.1   The meeting is invited to review and endorse the SEIs and DIP for LOC-I as in **Appendices A and B** to this working paper.

APPENDIX A

No	Safety Enhancement Action	GASP Safety Initiative (ICAO Doc 10004)	Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)	Safety Impact	Changeability	IC Indicator	Priority	Possible Champion	Time Frame	Notes
RAST-MID/LOC-I/1	Training to prevent LOC-I: Human Factors and Automation	**Safety Management Standarzation:** Implementation of risk-based standarization **Safety Oversight Standarization:** Promotion of Compliance with National Regulations and Adoption of Industry Best Practices	BP-GEN-1 BP-GEN-2 BP-GEN-4 BP-STD-S-12 BP-STD-S-13	High	Moderate	P2	2	IATA/ICAO/ Manufacturer	Long Term	This safety enhancement collects and provides advanced maneuver training material and encourages Part 121 operators to use these materials to implement advanced maneuver ground and flight training using appropriate flight training equipment. Emphasis should be given to stall onset recognition and recovery, unusual attitudes, upset recoveries, effects of icing, energy awareness and management, and causal factors that can lead to loss of control.
RAST-MID/LOC-I/2	Policies and Procedures to prevent LOC-I, including clear SOPs, Risk management, Communication, and flight crew proficiency	**Safety Management Standarzation:** Implementation of risk-based standarization **Safety Oversight Standarization:** Promotion of Compliance with National Regulations and Adoption of Industry Best Practices	BP-GEN-1 BP-GEN-2 BP-GEN-4 BP-STD-S-12 BP-STD-S-13	Medium	Eassy	P4	1	IATA/ICAO/ Manufacturer	Short Term	OPERATORS: This safety enhancement ensures that all airline operators publish and enforce clear, concise, and accurate flight crew SOPs. These SOPs should include expected procedures during pre/post flight and all phases of flight; i.e., checklists, simulator training, PF/PM duties, transfer of control, automation operation, rushed and/or unstabilized approaches, rejected landings and missed approaches, inflight pilot icing reporting, and flight crew coordination. Operator instructors and check airmen should ensure these SOPs are trained and enforced in their aircrew proficiency and standardization programs. STATES: Verif y that Policies and Procedures are in place and actively followed.

RAST-MID/LOC-I/3	Training to prevent LOC-I – Advanced Maneuvers – Implement Ground and Flight Training (1-3)	**Safety Management Standarzation:** Implementation of risk-based standarization **Safety Oversight Standarization:** Promotion of Compliance with National Regulations and Adoption of Industry Best Practices	BP-GEN-1 BP-GEN-2 BP-GEN-4 BP-STD-S-12 BP-STD-S-13	High	Moderate	P2	3	ICATEE	Long Term	Advanced Maneuvers Training (AMT) refers to training to prevent and recover from hazardous flight conditions outside of the normal flight envelope. Examples include in-flight upsets, stalls, ground proximity and wind shear escape maneuvers, and inappropriate energy state management conditions.

APPENDIX B

Detailed Implementation Plan Template								
No	**Safety Enhancement Action**	**GASP Safety Initiative (ICAO Doc 10004)**	**Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)**	**Safety Impact**	**Changeability**	**Indicator**	**Priority**	**Time Frame**
RAST-MID/LOC-I/1	The construction, approval and implementation of RNAV(GNSS) / RNP-AR procedures to all runways not currently served by precision approach procedures	Safety Management Standarzation: Implementation of risk-based standarization Safety Oversight Standarization: Promotion of Compliance with National Regulations and Adoption of Industry Best Practices	BP-GEN-1 BP-GEN-2 BP-GEN-4 BP-STD-S-12 BP-STD-S-13	High	Moderate	P2	1	Long Term
Safety Enhancement Action (expanded)		To improve the overall performance of flight crews to recognize and prevent loss of control accidents, through effective use of automationbased navigation technology is utilized, at such airfields, to provide the highest level of safety during the conduct of an approach and landing towards the runway.						
Statement of Work		To reduce loss of control accidents, operators will be encouraged to adopt consensus policies and procedures relating to mode awareness and energy state management aspects of flight deck automation, as appropriate to their respective operations.						
Champion Organization								
Human Resources		IATA, Pilot Associations; Safety, Flight Operations and Training managers; ICAO, CAA's, aircraft manufacturers, training centers						

Financial Resources	
Relation with Current Aviation Community Initiative	The following are some of the activities related to this project: •Incident data has shown that flight deck automation is a core issue that needs to be addressed. To enhance safety, a CAST working group, including aircraft manufacturers, pilot associations, etc. developed a tactical approach and distributed policies and procedures relating to mode awareness and energy state management. The COSCAP GS could use this material to develop a generic advisory circular. •CAST Flight Deck Automaton Working Group has been formed to recommend and prioritize actions to address, for current and projected operational use, the safety and efficiency of modern flight deck systems for flight path management (including energy state management). •The Human Factors and Pilot Training Group of the ALPA, Air Safety Structure has identified its position regarding CRM and Human Factors with respect to the use of automation. •SAE-G10, Aerospace Behavioral Engineering Technology (ABET) Committee, deals with the philosophies, principles and criteria by which designers, engineers, pilots and behavioral scientists structure systems to achieve maximum human workload compatibility for automation efficiency. The committee has several subcommittees with on-going work into human factors and automation
Performance Goal	Goal 1: Mitigate the effects of mode confusion and energy state management as contributing factors in loss of control accidents. Indicator: A measurable reduction of loss of control incidents and accidents related to automation. Goal 2: Mode awareness and energy state management aspects of flight deck automation advisory circular is readily available. Indicator: Each ICAO contracting State in the region has issued an advisory circular and distributed it to each operator's in the State. Completion of Output 3. Goal 3: All operators incorporate mode awareness and energy state management aspects of flight deck automation guidance in their approved training programs. Indicator: Mode awareness and energy state management aspects of flight deck automation guidance is provided to all transport airplane pilots Completion of Output 4.
Indicators	Reduce LOC-I related accidents by 50% by the end of 2017

Key Milestones (Deliverables)	The following milestones are based on the date of Steering Committee Approval (SCA) (months): •Review MID advisory circular IATA SCA+6 •Issue generic advisory circular ICAO Output 1 +1 •Issuance of advisory circular by States in the Region. CAAs Output 2 +6 •Operators develop guidance based on the AC and train pilots. Operators Output 3 + 18 •Track Implementation MID-RAST' SCA +12 and yearly
Potential Blockers	•Operator might not embrace advisory circular material, •Operators might not accept the potential cost of this training, •Operators may not recognize the safety enhancement benefits, •States may opt not to adopt and issue the advisory circular.
Responsible	Core Team: 1.
DIP Notes	To reduce loss of control accidents, air carriers will be encouraged to adopt consensus policies and procedures relating to mode awareness and energy state management, as appropriate to their respective operations.

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