



International Civil Aviation Organization

**Second Meeting of the RASG-MID Steering Committee  
(RSC/2)**

*(Amman, Jordan, 28 – 30 October 2013)*

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**Agenda Item 3: Regional Performance Framework for Safety**

**UPDATE ON DEVELOPMENT AND IMPLEMENTATION  
OF 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 Region Aviation Safety Team (MID-RAST) agreed to develop three SEIs and one DIP related to LOC-I.

**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.

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Loss of Control In-Flight (LOC-I) - Mr. Chamsou I-Andjorin - Boeing

DIP	RAST No	Safety Enhancement Action	Reference	GSI	Safety Impact	Changeability	IC Indicator	Priority	Possible Champion	Time Frame	Notes
	RAST-MID/LOC-I/1	Policies and Procedures to prevent LOC-I, including clear SOPs, Risk management, Communication, and flight crew proficiency	SE26, 27, 28 and 29	7	Medium	Easy	P4	1	IATA/ICAO/Manufacturers	short	<b>OPERATORS:</b> 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. <b>STATES:</b> Verify that Policies and Procedures are in place and actively followed.
	RAST-MID/LOC-I/3	Training to prevent LOC-I: Human Factors and Automation	SE 30	9	High	Moderate	P1	2	IATA/ICAO/Manufacturers	Long	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	Training to prevent LOC-I – Advanced Maneuvers – Implement Ground and Flight Training (1-3)	SE 31	9	High	Moderate	P1	3	ICATEE	Long	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.

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## DETAILED IMPLEMENTATION PLANS (DIPs)

Rast No.	Safety Enhancement Action	Reference	GSI	Safety Impact	Changeability	Indicator	Priority	Time Frame
RAST-MID/LOC-I/3	To improve the overall performance of flight crews to recognize and prevent loss of control accidents, through effective use of automation procedures	SE 30		High	Moderate	P2	3	Short
<b>Safety Enhancement:</b>	To improve the overall performance of flight crews to recognize and prevent loss of control accidents, through effective use of automation based 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.							
<b>Statement of Work:</b>	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.							
<b>Champion Organization:</b>	MID-RAST							
<b>Human Resource:</b>	IATA, Pilot Associations; Safety, Flight Operations and Training managers; ICAO, CAA's, aircraft manufacturers, training centers							
<b>Financial Resource:</b>								
<b>Relation Current Aviation Community Initiative:</b>	<p>The following are some of the activities related to this project:</p> <ul style="list-style-type: none"> <li>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.</li> <li>The COSCAP GS could use this material to develop a generic advisory circular.</li> <li>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).</li> <li>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.</li> <li>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</li> </ul>							
<b>Performance Goal</b>	<p>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.</p>							
<b>Indicators:</b>	Maintain the MID CFIT accident rate at 2012 level							
<b>Key Milestones:</b>	<p>The following milestones are based on the date of Steering Committee Approval (SCA) (months):</p> <ul style="list-style-type: none"> <li>Review MID advisory circular IATA SCA+6</li> <li>Issue generic advisory circular ICAO Output 1 +1</li> <li>Issuance of advisory circular by States in the Region. CAAs Output 2 +6</li> <li>Operators develop guidance based on the AC and train pilots. Operators Output 3 + 18</li> <li>Track implementation MID-RAST SCA +12 and yearly</li> </ul>							
<b>Potential Blockers:</b>	<ul style="list-style-type: none"> <li>Operator might not embrace advisory circular material,</li> <li>Operators might not accept the potential cost of this training,</li> <li>Operators may not recognize the safety enhancement benefits,</li> <li>States may opt not to adopt and issue the advisory circular.</li> </ul>							
<b>Responsible</b>								
<b>DIP Notes:</b>	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.							
<b>RAST-PA/LOC-I/6 Output 1:</b>	<p>Description: Review and evaluate the advisory circular to be created by the ICAO</p> <ul style="list-style-type: none"> <li>AACO / IFALPA / IATA team to review and evaluate the advisory circular created by the ICAO related to mode awareness and energy state management of flight deck automation.</li> <li>Based on this review create a generic advisory circular for the region</li> </ul> <p>Resources:</p> <p>Resource Notes: AACO, IFALPA, IATA, Flight Operations, Safety and Training managers, and Aircraft Manufacturers.</p> <p>Actions: AACO / IFALPA / IATA will convene a team to analyze the advisory circular, to verify policies and procedures related to mode awareness and energy state management are appropriate for the region. The team will develop a generic mode awareness and energy state management aspects of flight deck automation advisory circular for MID.</p> <p>Target Completion Date:</p> <p>Time Line: SCA + 6 months</p>							
<b>RAST-PA/LOC-I/6 Output 2:</b>	<p>Description: ICAO will distribute a copy of the developed generic advisory circular to each State in the region.</p> <p>Resources:</p> <p>Resource Notes: ICAO</p> <p>Actions: ICAO regional Offices will prepare a cover letter and disseminate the generic advisory circular to each member State in the region.</p> <p>Target Completion Date:</p> <p>Time Line: Completion of Output 1+ 1 months</p>							
<b>RAST-PA/LOC-I/6 Output 3:</b>	<p>Description: Each State in the region will use the generic advisory circular as a template to prepare a State advisory circular on mode awareness and energy state management aspects of flight deck automation.</p> <p>Resources:</p> <p>Resource Notes: State regulatory authorities</p> <p>Actions: States in the region to issue their own advisory circular on mode awareness and energy state management aspects of flight deck automation.</p> <p>Target Completion Date:</p> <p>Time Line: Completion of output 2 + 6 months</p>							
<b>RAST-PA/LOC-I/6 Output 4:</b>	<p>Description: Mode awareness and energy state management aspects of flight deck automation guidance is provided by operators to all of their pilots.</p> <p>Resources:</p> <p>Resource Notes: Operator's flight operations, standards and training departments.</p> <p>Actions: Each operator should carefully developed procedures and guidelines that support the proper use of mode awareness and energy state management aspects of flight deck automation in their training programs. Each transport airplane pilot should be trained to the flight deck automation procedures and guidelines developed by their organization.</p> <p>Target Completion Date:</p> <p>Time line: Completion of Output 3 + 18 months</p>							

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