



International Civil Aviation Organization

**Second Meeting of the Middle East Regional Aviation Safety Group
(RASG-MID/2)**

(Abu Dhabi, UAE, 12 - 14 November 2012)

Agenda Item 3: Regional Performance Framework for Safety

IN FLIGHT DAMAGE

(Presented by IFD Coordinator)

SUMMARY

This paper presents an overview of accidents in the MID Region, and the contributing factors to In-flight Damage.

The paper also provides a summary of initiatives made by the RASG-MID Steering Committee (RSC) and MID-RAST in the area of In Flight Damage which resulted in the first draft of Safety Enhancement Initiatives (SEIs) and Detailed Implementation Plans (DIPs).

Action by the meeting is at paragraph 3.

1. INTRODUCTION

1.1 In Flight Damage (IFD) has been identified by the MID Region Annual Safety Report Team (ASRT) as one of three main risk areas (Focus Areas) which will be addressed under the RASG-MID framework.

1.2 Globally there were 9 In-flight Damage accidents in 2009, 9 in 2010, and 5 in 2011.

2. DISCUSSION

2.1 Contributing factors to In-Flight Damage based on the analysis of accidents between 2008 and 2011 are summarized in the following table:

Category	Classification
Airline Threats	Aircraft Malfunction: Extensive/Uncontained Engine Failure
	Aircraft Malfunction: Gear / Tire
	Maintenance Events
Environmental Threats	Wildlife/Birds/Foreign Object
	Meteorology: Thunderstorms
Procedural Errors	SOP Adherence / SOP Cross-verification

Aircraft Handling UAS	Unnecessary Weather Penetration
Org Latent Conditions	Design
	Regulatory Oversight
	Safety Management

2.2 As an initial step, the MID-RAST will focus on Safety enhancement Initiatives (SEIs) under the following three areas:

2.2.1 SOPs/SOP Adherence; this is a common area under Runway and Ground Safety (RGS) and Loss of Control (LOC-I).

2.2.2 Wildlife/FOD; under which the MID-RAST will promote practices and tools for mitigation of birdstrike and FOD hazards at international airports.

2.2.3 Handling Drastic Weather Conditions; under which the MID-RAST will increase awareness on means and tools of handling situations where a natural disaster occurs.

2.3 The details of the SEIs are attached to this paper under **Appendix A** to this working paper.

2.4 The Detailed Implementation Plans (DIPs) under In Flight Damage are attached to this paper under **Appendix B** to this working paper.

2.5 Out of the proposed activities under MID-RAST, the following are of utmost priority:

2.5.1 Wildlife/FOD DIPs:

- a) conduct a survey and assessment of airports in the region to identify and understand animal habitat around airports, and methods used by the airport for controlling hazardous wildlife;
- b) establish a regional guidance document that addresses key issues such as vegetation (like tall grass policy); and
- c) convene a workshop for pilots and ATCOs to increase awareness on wildlife avoidance during flight.

2.5.2 Handling Drastic Weather Conditions:

- a) collect contingency procedures information and make them available for airline operators, regulators, and ANSPs in one place accessible by everyone; and
- b) develop a training document for pilots and dispatchers which includes information on past volcanic ash events, experience of regional airlines, and experience of ANSPs.

2.6 The development of DIPs under SOPs/SOP Adherence is addressed under WP/9.

3. ACTION BY THE MEETING

3.1 The meeting is invited to review and endorse the SEIs and DIPs related to In Flight Damage.

In-Flight Damage (IFD) SEIs - Ms. Ruby Sayyed - IATA

DIP	Safety Enhancement Action	Reference	GSI	Safety Impact	Changeability	IC Indicator	Priority	Possible Champion	Time Frame	Notes
	Promote SOP Adherence / SOP Cross-Verification	RAST-MID/IFD/01		High				IATA & IFALPA		DIPS might include: 1. Development guidance material for SOPs using examples of best practice examples collected from manufacturers and airlines. 2. Make use of training tools such as Evidence Based Training (EBT) This DIP will also be linked to pilot adherence to SOPs under RGS & CFIT.
	Promote enhanced aircraft maintenance standards	RAST-MID/IFD/02		Medium				IATA & Boeing		DIPS might include: 1. Launch Competency Basec Training (CBT) awareness for maintenance personnel and provide support in the form of "Go Team" visits where required 2. Develop guidance material which includes best practices on enhanced aircraft inspection practices and procedures collected from airlines and manufacture
	Promote practices and tools for mitigation of birdstrike and FOD hazards at regional airports	RAST-MID/IFD/03		High				IATA & ICAO		DIPS might include: 1. Conducting a survey and assessment of airports in the region to identify and understand animal habitat around airports, and methods used by the airport for controlling hazardous wildlife. This survey to include assessment of the States' implementation of ICAO Annex 14 standards in Chapter 9 - 9.4 , and analysis of the data collected. 2. Convening training and workshops for pilots and ATCO to increase awareness on wildlife avoidance during flight 3. Promote voluntary reporting of bird strikes by airlines, airports, and regulators. Various tools are available such as ICAO Bird Strike Information System (IBIS), IATA Bird Strike Database, etc.
	Increase awareness on means and tools of handling	RAST-MID/IFD/04		High				IATA & ICAO		

Detailed Implementation Plan Template

Rast No	Safety Enhancement Action	Reference	GSI	Safety Impact	Changeability	Indicator	Priority	Time Frame
	Promote pilot adherence to Standard Operating Procedures		9	High	Easy	P1	1	Short Term

Safety Enhancement Action (expanded)	<p>Pilot adherence to Standard Operating Procedures (SOPs), including stabilized approach criteria and go-around decision making, is key to preventing and reducing the risk of Runway Excursions (RE), In-Flight Damage (IFD), Loss of Control (LOC-I), and Controlled Flight Into Terrain (CFIT).</p> <p>The overall strategy in mitigating accidents/incidents in all risk areas related to pilot adherence of SOPs includes promotion of existing industry initiatives, adequate ICAO SARPs and guidance, appropriate State regulation and guidance as well as appropriate operator policies, procedures and enhanced training/awareness programs.</p>
Statement of Work	The RASG-MID ASR - First Edition identified the most frequent contributing factors in all the top accidents categories as SOPs and SOPs adherence. This DIP aims at increasing pilot awareness to SOPs requirements, and ensuring that training programs take into consideration feedback from accidents and incidents.
Champion Organization	ICAO, IATA, IFALPA
Human Resources	Airlines, Regulators, Training Academies, International and Regional organizations and associations
Financial Resources	
Relation with Current Aviation Community Initiative	<p>ICAO SARPs</p> <p>Evidence Based Training (EBT)</p> <p>Manufacturere's best practices</p>

Performance Goal	<ul style="list-style-type: none"> • SEIs related to pilot adherence to SOPs • MID-RAST to promote use of existing Toolkits and resources • MID-RAST to promote EBT as a training tool
Indicators	
Key Milestones	<ul style="list-style-type: none"> • MID-RAST to arrange a meeting for Champion Organisations to confirm Performance Goals, actions and roles • Development guidance material for SOPs under the categories of the key risk areas using examples of best practice examples collected from manufacturers and airlines • MID-RAST to convene a workshop for the use of EBT and other training tools to enhance safety • RASG-MID and MID-RAST to consider recommendations from cross Focus Area Task Force regarding any required follow up with States, enhancements to ICAO materials or promotion of industry best practice
Potential Blockers	Availability of required human resources from identified organisations
DIP Notes	<ol style="list-style-type: none"> 1. Promotion/Communication Channels - websites, questionnaires, State Letter, press release, events, training 2. Best practice for training (airlines/training organisations) may include - recurrent training in threat and error management 3. Best practice for SOP to be taken from manufacturers, IFALPA and airlines 4. Best practice for CAAs in other regions

Detailed Implementation Plan Template

Rast No	Safety Enhancement Action	Reference	GSI	Safety Impact	Changeability	Indicator	Priority	Time Frame
MID-RAST/IFD/3	Promote practices and tools for mitigation of birdstrike and FOD hazards at regional airports							

Safety Enhancement Action (expanded)	Wildlife strikes involve fatalities, as well as result in substantial aircraft damage that is one of the highest contributing factors for In-Flight Damage accidents, and costs airlines millions of dollars per year
Statement of Work	This DIP aims at improving aviation safety through mitigation of birdstrike and FOD hazards, and lowering of number of accidents/incidents related to wildlife and FOD. The aim is to utilize improved wildlife management techniques and apply training and awareness campaigns.
Champion Organization	IATA & ICAO
Human Resources	Airlines, Regulators, Manufacturers, Airports, International and Regional organizations and associations
Financial Resources	

Relation with Current Aviation Community Initiative	<ol style="list-style-type: none"> 1. RASG-PA initiative in wildlife control 2. IATA Bird Strike Database
Performance Goal	<ul style="list-style-type: none"> • SEIs related to wildlife/FOD • MID-RAST to promote use of existing Toolkits and resources • MID-RAST to promote regional standards and guidance material tailored to the climate/environment/species of the MID Region
Indicators	
Key Milestones	<ol style="list-style-type: none"> 1. Conduct a survey and assessment of airports in the region to identify and understand animal habitat around airports, and methods used by the airport for controlling hazardous wildlife 2. Establish a regional guidance document that addresses key issues such as vegetation (like tall grass policy) 3. Convene a workshop for pilots and ATCO to increase awareness on wildlife avoidance during flight 4. Develop regular communication to stakeholders showing trends and indicators from available databases (global and regional)
Potential Blockers	<p>Availability of required human resources from identified organisations</p> <p>Timely collection of data and information</p>
DIP Notes	<ol style="list-style-type: none"> 1. Promotion/Communication Channels - regular newsletter 2. Best practice from manufacturers 3. Best practice for CAAs (in MID or in other regions)

Detailed Implementation Plan Template

Rast No	Safety Enhancement Action	Reference	GSI	Safety Impact	Changeability	Indicator	Priority	Time Frame
MID-RAST/IFD/4	Increase awareness on means and tools of handling situations where a natural disaster occurs							

Safety Enhancement Action (expanded)	Drastic weather condition have always resulted in operational restrictions and safety concerns. Examples of such conditions include natural disasters such as Volcanic ash, Tsunamis and cyclons. Weather conditions have been identified as one of the major contributing factors for In-Flight Damage.
Statement of Work	This DIP aims at improving handling situations where a natural disaster occurs, and lowering the number of accidents/incidents caused by lack of information on how to manage situations of natural disasters or drastic weather conditions.
Champion Organization	IATA & ICAO
Human Resources	Airlines, Regulators, Manufacturers, Airports, International and Regional organizations and associations
Financial Resources	
Relation with Current Aviation Community Initiative	<ol style="list-style-type: none"> 1. Volcanic Ash TF 2. Advisories, circulars, information circulated by ICAO, IATA, IFALPA, and manufacturers

Performance Goal	<ul style="list-style-type: none"> • SEIs related to weather • MID-RAST to promote use of existing Toolkits and resources • MID-RAST to increase awareness through the availability of information and training tools
Indicators	
Key Milestones	<ol style="list-style-type: none"> 1. Collect contingency procedures information and make them available for airline operators, regulators, and ANSPs in one place accessible by everyone. 2. Develop a training document for pilots and dispatchers which includes information on past volcanic ash events, experience of regional airlines, and experience of ANSPs. 3. Set-up the structure for a regional call center that during natural disasters will become available to convene conference calls, share information, and circulate up-to-date publications and NOTAMs similar to the model of AIS AGORA or CFMU NOP Portal.
Potential Blockers	<p>Availability of required human resources from identified organisations</p> <p>Hosting documents on-line</p> <p>Management of an interactive portal for sharing of information during a natural disaster</p>
DIP Notes	<ol style="list-style-type: none"> 1. Promotion/Communication Channels - websites, questionnaires, State Letter, press release, events, training 2. Best practice for handling natural disasters or drastic weather conditions can be obtained from manufacturers 3. Best practice from other regions