



International Civil Aviation Organization

RASG-MID Steering Committee

Sixth Meeting (RSC/6)
(Cairo, Egypt, 25 – 27 June 2018)

Agenda Item 3: Regional Performance Framework for Safety

ANALYSIS OF DATA – NEW METHODOLOGY

(Presented by the Secretariat)

SUMMARY

The aim of this paper is to propose improvements to the methodology used for the identification of focus areas and emerging risks for the development of the MID Annual Safety Reports (MID-ASRs), as agreed by the MID ASRT/2 meeting.

Action by the meeting is at paragraph 3.

REFERENCES

- <http://www2.developpement-durable.gouv.fr/IMG/pdf/DGAC-PS-2018-GB-WEB.pdf>
- MID-ASRT/2 Meeting (Cairo, Egypt, 4-5 February 2018)

1. INTRODUCTION

1.1 The current process of the identification of risk areas and focus areas has been used for the development of the Aviation Safety Report for several years and reached a certain maturity level. Therefore, it is time to review the methodology used for risk assessment and propose/introduce some improvements.

2. DISCUSSION

2.1 The MID ASRT/2 meeting agreed to the following improvements to the methodology used for risk assessment:

- 1) improvement of the current risk matrix used for the identification of focus areas; and
- 2) introduction/adoption of the “feared consequence” of the risk portfolio of DGAC France.

2.2 **Review of the current risk matrix:** In order to facilitate the identification and prioritization of the main Regional Focus Areas (FAs), accidents are categorized in terms of frequency and severity. The severity assessment is based on the fatalities, injuries and damage to aircraft, property

and equipment. It is proposed to have four (4) levels of severity instead of three (3). The level of severity is categorized as follows:

- 1) Catastrophic: multiple deaths; serious damage to aircraft/equipment (destroyed);
- 2) Major: serious injury/fatalities; major aircraft/equipment damage;
- 3) Minor: little consequences (minor injuries, minor damage to aircraft); and
- 4) No potential damage or injury.

2.2.1 Based on the above, the following risk matrix is proposed:

Frequency \ Severity	1	2	3	4	5	6
1	1	2	3	4	5	6
2	2	4	6	8	10	12
3	3	6	9	12	15	18
4	4	8	12	16	20	24

2.2.2 Risk scoring: To facilitate the identification of the safety priority areas; the accidents data is analysed in terms of frequency and severity using the above risk matrix (for Frequency rating: 1 is the most frequent and 6 is the least frequent. For Severity: 1 is the most severe and 4 is the least severe): Calculate the risk score by multiplying the severity by the likelihood: S (Severity) x L (Likelihood)= R (Risk score).

2.2.3 For grading risks, the scores obtained from the risk matrix are assigned grade as follows:

	1-6: Focus areas
	8-9: Emerging risks
	10-24: Tolerable risks

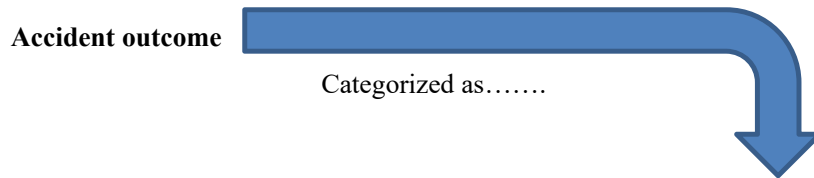
2.3 **“Feared consequence” of the risk portfolio of DGAC France:** This is the risk portfolio related to commercial air transport, managed by the DGAC France within the framework of the State Safety Programme (SSP).

2.3.1 A feared consequence (FC) (in the causal chain) is an accident in the sense of ICAO Annex 13.

2.3.2 An undesirable event (UE) is an unwanted event in view of the services expected. An undesirable event may be technical, procedural or human.

2.3.3 In the analysis model used by DGAC France, which is close to the «bowtie» model, the feared consequence is placed on the right side, and the undesirable event at the centre.

2.3.4 The Risk Portfolio is included in **Appendix A**.



CFIT	LOC-I	MAC	GCOL	RE/ARC	Damage/Injury inflight	Damage/Injury on Ground
Catastrophic	Catastrophic	Catastrophic	Catastrophic	Major	Minor	Minor

3. ACTION BY THE MEETING

3.1 The meeting is invited to endorse the proposed improvements to the methodology used for the development of the MID-ASRs.

Undesirable Event Identification

Nb	Identification of Undesirable Event	Accident Potential outcome					RE	Damage to aircraft or injury in flight	Damage to aircraft or /injury on ground
		CFIT	LOC-I	MAC	Ground Collision				
UE.1	Unstabilised or non-compliant approach	X	X				X		X
UE.2	Abnormal airplane attitude (Roll, pitch, speed...)		X					X	
UE.3	Events relating to aerodrome conditions (Runway surface condition and aerological parameters)		X				X	X	X
UE.4	En-route encounter of dangerous weather phenomena (Thunderstorm, turbulence, Icing)		X	#				X	X
UE.5	Misuse of aircraft system (Weight and Balance, speed track, aircraft config)	X	X	X	X		X	X	X
UE.6	Event pertaining to works/maintenance operations on or close to a runway		#		X		X		X
UE.7	Bad coordination/execution of ground operations (deicing, loading, stowing, line maintenance, etc)	X	X		X			X	X
UE.8	Runway/taxiway incursion				X		X		X
UE.9	Loss of separation in flight/ and/or airspace infringement /level bust		X				X	X	X
UE.10	Wildlife hazard, including bird strike		X		X		X	X	
UE.11	Ground-onboard interface failure (Misunderstanding, unsuitability of transmitted information, etc)	X	X	X	X		X	X	X
UE.12	Aircraft maintenance event	X	X		#		X	X	X
UE.13	Fire/Smoke in flight	#	X					X	X
UE.14	Aircraft system failure resulting in flight management disturbance	X	X		#		X	X	X
UE.15	Loss of cabin pressure		X	#				X	
UE.16	Aircraft damage due to FOD		X				X	X	X

X: Undesirable Event (UE) leads to the significant increase in the probability of the occurrence of a feared consequence

#: Undesirable event (UE) may exceptionally lead to the feared consequence

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