


SAFETY INFORMATION AND ADVISORY NOTICE (SIAN)		 Transport Malta Civil Aviation Directorate Safety and Compliance Unit Transport Malta Centre Triq Pantar Lija LJA 2021 Malta aviationsafety.tm@transport.gov.mt
SIAN Number: 07/22	Issue Date: 07/11/2022	
Subject: Occurrence Reporting Risk Score Classification		

1.0 INTRODUCTION

- 1.1 Regulation (EU) no 376/2014 mandates that each occurrence report shall include a safety risk classification (submitted by the reporter) which needs to be reviewed by the Competent Authority of the Member State.
- 1.2 The Occurrence Reporting portal developed by 'Centrik' and managed by Transport Malta Civil Aviation Directorate (TM-CAD), requires reporters to classify the risk of an event using the ICAO 5x5 risk classification table. 'Centrik' clients mostly opt for the default risk classification provided which is based on the Event Risk Classification (ERC) and part of the ARMS Risk Assessment methodology.
- 1.3 The assessment conducted by TM-CAD for each Occurrence Report is based on the ICAO 5x5 risk classification table.
- 1.4 Regulation (EU) No 376/2014 mandates The Commission to develop a common European risk classification scheme to assist in the identification of key risk areas and any rapid action needed when identifying any high-risk safety events. This risk classification tool is applicable to the competent authority of each Member State.
- 1.5 With the introduction of the European Risk Classification Scheme (ERCS) from 1st January 2023 as the assessment tool for each competent authority, TM-CAD will be aligning its current risk classification method to allow for a better conversion when assessing the risk classification as submitted by the reporter.
- 1.6 This change will be effective from **Monday 28th November 2022**. 'Centrik' clients already using the ERC as their risk classification tool are not affected by this change.
- 1.7 Once confidence in the new classification method is nurtured, TM-CAD will consider encouraging operators and organisations to opt for the ERCS as their risk classification tool.

2.0 APPLICABILITY

- 2.1 This Notice is to be disseminated to all personnel, and people who have interests in reporting aviation safety related occurrences via the TM-CAD occurrence reporting portal.

Aerodromes:	All Aerodrome operators and their personnel
Air Traffic:	All Air Traffic Services and their personnel
Airspace:	All users
Airworthiness:	All Airworthiness related organisations and their personnel
Flight Operations:	All Commercial Air Transport operators, Aircraft Operators, General Aviation Operators and their personnel
Licenced/Unlicenced Personnel:	ATOs, their personnel and other personnel with an interest in aviation safety

3.0 RECOMMENDATIONS AND INSTRUCTIONS

3.1 Currently, reporters are prompted with the ICAO 5x5 risk classification table (Severity x Probability)

Selected Severity

		Severity				
Category	Section	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)

Selected Probability

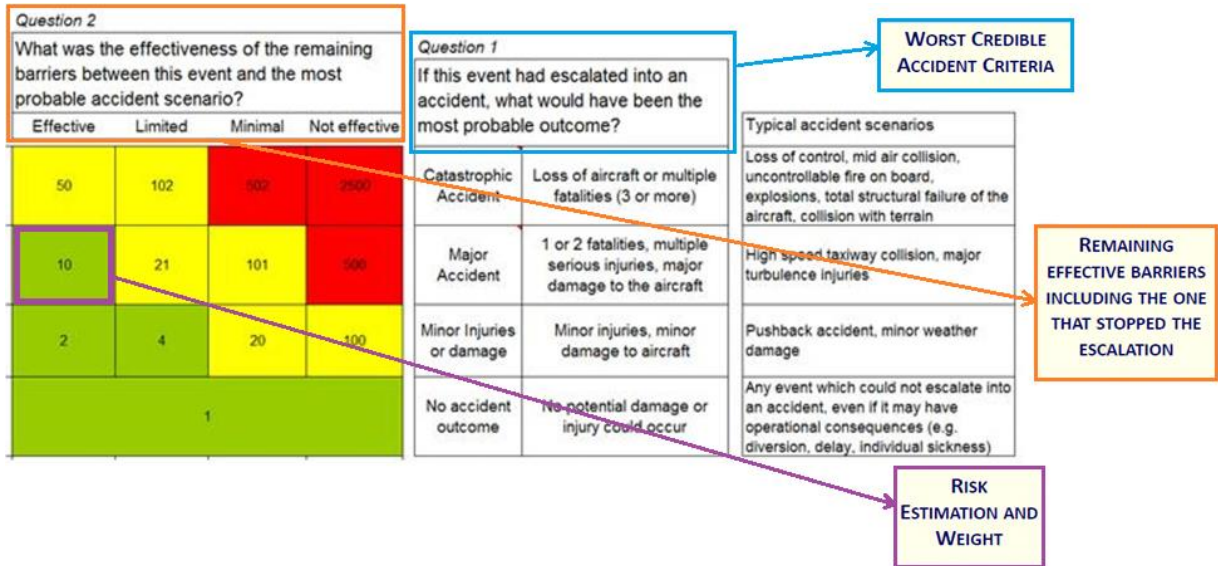
		Probability				
Category	Section	Exceptional (E)	Improbable (D)	Remote (C)	Occasional (B)	Frequent (A)

3.2 This is going to be replaced with the Event Risk Classification (ERC) as per below:

Question 2 What was the effectiveness of the remaining barriers between this event and the most probable accident scenario?				Question 1 If this event had escalated into an accident, what would have been the most probable outcome?		Typical accident scenarios
Effective	Limited	Minimal	Not effective	Catastrophic Accident	Major Accident	
50	102	502	2500	Loss of aircraft or multiple fatalities (3 or more)	1 or 2 fatalities, multiple serious injuries, major damage to the aircraft	Loss of control, mid air collision, uncontrollable fire on board, explosions, total structural failure of the aircraft, collision with terrain
10	21	101	500	Minor Injuries or damage	Minor injuries, minor damage to aircraft	High speed taxiway collision, major turbulence injuries
2	4	20	100	No accident outcome	No potential damage or injury could occur	Pushback accident, minor weather damage
1						Any event which could not escalate into an accident, even if it may have operational consequences (e.g. diversion, delay, individual sickness)

3.3 The ERC value is based on two questions:

- i. If this event had escalated into an accident, what would have been the most credible accident outcome?
- ii. What was the effectiveness of the remaining barriers between this event and the most credible accident outcome?



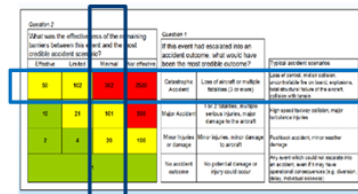
ERC Example:

An A320 aircraft experienced an almost total loss of thrust in both engines after encountering a flock of birds and was subsequently ditched on the River. The aircraft had departed about 2 minutes before the in-flight event occurred.

The 150 passengers, including a lap-held child, and 5 crewmembers evacuated the airplane via the forward and over wing exits. One flight attendant and four passengers received serious injuries, and the airplane was substantially damaged.

Q1: Potential accident outcome in this case is a **catastrophic** accident (most likely outcome)

Q2: total loss of thrust in both engines subsequently ditched on the river. Decision-making of the flight crewmembers and their crew resource management during the accident sequence and a/c was equipped for an extended overwater flight. Barriers were **minimal**



Source: Safety Management System Slides - SMS Aerodrome Workshop Nov 2018, Cairo

3.4 The first question is referring to the most *credible* outcome, one which can be avoided (or mitigated) by having this specific type of incident reported. Additionally, it is also not looking for the *worst* possible outcome as often than not, this would not be the most obvious accident to expect.

3.5 The second question only considers remaining barriers – to estimate the probability of further escalation into the most credible accident outcome of Question 1. The barrier, which stopped the escalation, will be counted in along with any others that are believed to remain. The already

failed barriers will be ignored. It is recognised that there is still subjectivity in the answer to the second question and that expert knowledge will still be required to make an accurate categorisation.

- 3.6 The role of subjectivity is being recognised in answering the questions stated above, nonetheless expert knowledge is still being required for an acceptable level of accuracy and precision for occurrence categorisation.

4.0 FURTHER INFORMATION

- 4.1 “The ARMS Methodology for Operational Risk Assessment in Aviation Organisation.”
Developed by the ARMS Working Group, 2007-2010 || Section 4.2:
<https://www.easa.europa.eu/en/document-library/general-publications/arms-methodology-operational-risk-assessment-2007-2010>
- 4.2 For any further clarifications or assistance related to this change kindly contact TM-CAD on aviationsafety.tm@transport.gov.mt

5.2 CANCELLATION

- 5.1 This SIAN will remain in force until further notice.

Safety and Compliance Unit