CLASSIFICATION OF AVIATION EVENT – FLIGHT OPERATIONS

OVERVIEW:

The classification of an aviation event is a five-step process in which **actual** and **potential** consequences of the event are considered. Minimum classifications (from CLASS A to CLASS D) are assigned at steps 1 to 3 for the Personal Injury Level (1), Aircraft Damage Level (2) and Perceived Risk Level (3). Step 4 involves selecting the highest classification from steps 1-3. This is the overall classification for the event. Step 5 prompts users to review the event classification should additional information become available.

AVIATION SAFETY EVENT – FLIGHT OPERATIONS

Use this fact sheet to classify an aviation safety event that relates to Flight Operations. This includes:

- Air Operations General (DASR AO.Gen)
- Aircrew (DASR Aircrew)
- Organisation Requirements for Air Operations (DASR ORO)
- Uncrewed Aircraft System Operations – Certified Category (DASR UAS)
- Non-Defence Registered Aircraft Operations (DASR NDR)
- Flight Test Operations (DASR FT)
- Specific Purpose Approval (DASR SPA)
- Special Purpose Operations (DASR SPO).

NOTE: For aviation safety events that relate to Specific and Open Category UAS Operations, use the 'Classification of Aviation Event – UAS Operations' fact sheet.

1 PERSONAL INJURY LEVEL (PIL)

PIL indicates the actual injuries that are the outcome of an aviation safety event. Using the descriptors below, identify the most severe injury sustained by an individual as a direct outcome of the aviation event.

	FATAL	SERIOUS	MINOR*	NO INJURY
PIL description	The highest level of injury was fatal.	The highest level of injury was a serious injury or illness as defined under the WHS Act.	The highest level of injury/exposure was minor.	No injuries were sustained.
Minimum event classification	CLASS A	CLASS B	CLASS C	CLASS D

NOTE:
If an injury was sustained as a direct consequence of an aviation event, ensure the Sentinel WHS stream within the ASR has been activated.
***Minor injury/illness:** As a direct result of the aviation safety event, a person(s) was injured or exposed to a hazardous substance/material, but does not meet the serious definition.

2 AIRCRAFT DAMAGE LEVEL (ADL)

ADL indicates the actual damage that an aircraft experienced as an outcome of an aviation safety event. Using the descriptors below, identify the highest level of damage the aircraft sustained as a direct outcome of the aviation event.

	DESTROYED	SUBSTANTIAL DAMAGE	MODERATE DAMAGE	NO DAMAGE OR MINOR DAMAGE
ADL description	Aircraft destroyed, missing, unrecoverable or sustained damage to such an extent that it is unrepairable or uneconomical to repair.	Aircraft sustained substantial damage or structural failure that requires extensive inspection but is economically repairable.	Aircraft sustained moderate damage that is repairable without extensive inspection, including engine change.	Aircraft sustained either: 1. no damage; or 2. minor damage that is repairable within two days.
Minimum event classification	CLASS A	CLASS B	CLASS C	CLASS D

NOTE:
- Where multiple aircraft are assigned to a single event, ADL identifies the highest level of damage.

3 PERCEIVED RISK LEVEL (PRL)

The PRL describes the potential consequences of an event by providing an indication of the risk that the event poses to aviation safety. The PRL is a subjective judgement determined by answering two questions in the provided matrix regarding the most negative credible consequence and the effectiveness of the remaining risk controls.

QUESTION 1:

If the aviation safety event had escalated, what would have been the most negative credible consequence?

NOTE:
- Each event takes place in a unique context with various factors interacting to cause its outcome.
- Thoroughly consider the factors/circumstances that existed at the time of the event and how these could have interacted and escalated the consequence.
- The escalation could be due to actions by the people involved or how the event sequence could have developed in different ways.
- Determine the credible/plausible consequence(s) that could have happened if the event had escalated.
- Do not worry about the probability of the consequence(s) at this stage. Question 2 will take probability into account by considering the effectiveness of remaining risk controls.
- If you identify more than one negative credible consequence, select the one that is considered to be the most negative.
- If it was extremely unlikely that the event could have escalated into a negative consequence, then select 'No Consequence'.

QUESTION 2:

How effective were the remaining risk controls in preventing the aviation safety event from escalating to the most negative credible consequence?

NOTE:
- Some risk controls try to **prevent** an undesirable operational state and others try to **recover** the system into a safe state.
- Consider both the number and robustness of the remaining risk controls between this event and the most negative credible consequence identified in Question 1. Ignore risk controls which have already failed.

Select the corresponding column using the below descriptors.

Select the corresponding row using the below descriptors.

Q1. MOST NEGATIVE CREDIBLE CONSEQUENCE		Q2. EFFECTIVENESS OF REMAINING RISK CONTROLS			
		HIGHLY EFFECTIVE The remaining risk controls were highly effective typically consisting of several good safety barriers.	MOSTLY EFFECTIVE The remaining risk controls were mostly effective with a considerable safety margin remaining. It is improbable that the event could have escalated into the most credible consequence.	BARELY EFFECTIVE Some risk controls were still in place, but their total effectiveness was minimal.	NOT EFFECTIVE The only thing separating the event from the negative credible consequence was luck or exceptional skill, which is not trained or expected.
• Failure conditions that would prevent continued safe flight or safe landing. Flight-critical or safety-critical systems inoperative or unavailable. • Total loss of flight controls, mid-air collision, collision with terrain, water or obstacle, or high speed surface movement collision. • Complete incapacitation of crew, tasks cannot be performed. • Fatality • Aircraft destroyed (see ADL description).	CATASTROPHIC	Class C (Medium)	Class C (Medium)	Class B (High)	Class B (Very High)
• Significant reduction in safety margins or aircraft functional capabilities but continued safe flight or safe landing possible (for example requiring crew to follow emergency procedures as per Airplane Flight Manuals). Flight-critical or safety-critical systems affected. • Near mid-air collision, near collision with terrain, water or obstacle requiring avoiding action. • Physical distress or excessive workload of crew impairs ability to perform tasks accurately or completely. • Serious injury or illness, or immediate or imminent exposure. • Substantial aircraft damage (see ADL description).	MAJOR	Class D (Low)	Class C (Medium)	Class C (Medium)	Class B (High)
• Slight reduction in safety margins or aircraft functional capabilities (for example requiring crew to follow abnormal procedures as per Airplane Flight Manuals). Flight-critical or safety-critical systems not affected. • Loss of separation not requiring avoiding action. • Physical discomfort of crew or a significant increase in crew workload or in conditions impairing crew efficiency. • Minor injury or exposure. • Moderate aircraft damage (see ADL description).	MINOR	Class D (Very Low)	Class D (Low)	Class C (Medium)	Class C (Medium)
• No effect on safety margins or aircraft functional capabilities. (for example normal procedures as per Airplane Flight Manuals). • Negligible or no effect on air separation. • Slight increase in crew workload which involve crew actions well within crew capabilities such as routine flight plan changes. • No injury. • No aircraft damage or minor aircraft damage (see ADL description).	NO CONSEQUENCE	Class D (Very Low)	Class D (Very Low)	Class D (Low)	Class D (Low)

4 FIND THE OVERALL EVENT CLASSIFICATION

Event classifications range from CLASS A to CLASS D. After establishing the event classification for the PIL, ADL and PRL, **select the highest of the three values**. This is the overall event classification.

NOTE: If Class A or B, contact the DFSB Duty Officer on (02) 6144 9199 or DFSB.investigations@defence.gov.au

5 REVIEW

Changes should be made to the PIL, ADL and PRL (and subsequent event classification) if more information becomes available. This ensures that an accurate classification is recorded and key learnings are captured.

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