



**ACCIDENT INVESTIGATION AND PREVENTION (AIG)
DIVISIONAL MEETING (2008) (AIG/08)**

Montréal, 13 to 18 October 2008

REPORT ON AGENDA ITEM 1.1

The Plenary, on 18 October 2008, approved the report on Agenda Item 1.1.

Note.— After removal of this covering sheet, this paper should be inserted in the appropriate place in the Report Folder.

Agenda Item 1: Annex 13
1.1: Chapter 1

1.1.1 INTRODUCTION

1.1.1.1 The meeting considered several proposals for amendments to the definitions in Chapter 1 of Annex 13.

1.1.2 DEFINITION OF ACCIDENT

1.1.2.1 The meeting considered the usage of unmanned aircraft systems (UAS) and their expected increased usage in civil flight operations. The meeting agreed that accidents involving UAS should be investigated within the framework of Annex 13 and that the relevant provisions in Annex 13 should be amended to accommodate UAS. The wording of the definition of “Accident” was amended accordingly and a Note 3 was added to the definition of “Accident”. In addition, a Note 3 was added to paragraph 5.1 of Annex 13.

1.1.2.2 A concern had been raised in regard to the situation which arises when an aircraft is missing and cannot be found. The meeting noted that such accidents would be investigated based on whatever information was available and recalled that paragraph 5.13 provided for a re-opening of the investigation when new and significant evidence became available, for example if the aircraft was subsequently found. The meeting agreed to include in Note 2 to the definition of accident, a reference to paragraph 5.13.

1.1.2.3 The meeting made the following recommendation:

RSPP Recommendation 1.1/1 — Inclusion of Unmanned Aircraft Systems (UAS)

Accident. An occurrence associated with the operation of an aircraft with the intention of flight which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:

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Note 2.— An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located. Should the wreckage be subsequently located, consideration should be given to re-open the investigation as per 5.13.

Note 3.— An occurrence associated with the operation of an unmanned aircraft system with the intention of flight, which takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down. The type of unmanned aircraft system to be investigated is addressed in 5.1

Recommendation 1.1/1 (cont'd)

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CHAPTER 5. INVESTIGATION**RESPONSIBILITY FOR INSTITUTING AND
CONDUCTING THE INVESTIGATION**

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State of Occurrence

5.1 The State of Occurrence shall institute an investigation into the circumstances of the accident and be responsible for the conduct of the investigation, but it may delegate the whole or any part of the conducting of such investigation to another State by mutual arrangement and consent. In any event the State of Occurrence shall use every means to facilitate the investigation.

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Note 3.— In the case of investigation of an unmanned aircraft system, only aircraft with a design and/or operational approval are to be considered.

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1.1.2.4 Next, the meeting considered a proposal to refine the classification criteria for aircraft damage in the definition of accident, in order to assist States in the classification of occurrences as an accident or serious incident. The meeting agreed in principle to the proposal. In the subsequent detailed examination of the proposed material, the meeting agreed to the changes to “aircraft damage or structural failure” as part of the definition of accident, as identified in the recommendation below.

**RSPP Recommendation 1.1/2 — Amendment to definition of accident
related to aircraft damage*****Accident.***

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b) the aircraft sustains damage or structural failure which:

- adversely affects the structural strength, performance or flight characteristics of the aircraft, and
- would normally require major repair or replacement of the affected component.

except for engine failure or damage, when the damage is limited to a single engine, its cowlings or accessories; or for damage

Recommendation 1.1/2 (cont'd)

limited to propellers, main rotor blades, tail rotor blades, wingtips, antennas, probes, vanes, tires, brakes, wheels, superficial damage to the landing gear, fairings, panels, landing gear doors, damaged windscreens, small dents or puncture holes in the aircraft skin, minor hail or bird strike damage (including holes in the radome).

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1.1.2.5 Furthermore, the meeting recognized that the classification of an occurrence as an accident, serious incident or incident was sometimes difficult. Therefore, the meeting agreed in principle with the part of the proposal which contained detailed usage notes and examples aimed at assisting States in determining the aircraft damage as part of the classification of accidents, serious incidents and incidents. The meeting noted that the proposed text might require some editorial editing for inclusion in Annex 13 as green page guidance material in a new Attachment X. The meeting made the following recommendation for a new Attachment X in Annex 13:

RSPP Recommendation 1.1/3 — New Attachment X — Guidance for the determination of aircraft damage

Insert a new Attachment X in Annex 13, along the following lines:

GUIDANCE FOR THE DETERMINATION OF AIRCRAFT DAMAGE

1. If an engine separates from an aircraft, the event is categorized as an accident even if damage is confined to the engine.
2. A loss of engine cowl (fan or core), or reverser components, which, does not result in further damage to the aircraft is not considered an accident.
3. Occurrences where compressor or turbine blades, or other engine internal components are ejected through the engine tail pipe are not considered an accident.
4. A collapsed, or missing radome, is not considered an accident, unless there is related substantial damage in other structures or systems.
5. Missing flap, slat and other lift augmenting devices, winglets, etc, that are permitted for dispatch under the MEL or CDL are not considered to be an accident.

Recommendation 1.1/3 (cont'd)

6. Retraction of a landing gear leg, or wheels up landing, resulting in skin abrasion only. If the aircraft can be safely dispatched after minor repairs, or patching, and subsequently undergoes more extensive work to effect a permanent repair, then the occurrence would not be classified as an accident.
7. If the damage is such that the aircraft depressurizes, or cannot be pressurized, the occurrence is categorized as an accident.
8. The removal of components for inspection following an occurrence, such as the precautionary removal of an undercarriage leg following a low speed runway excursion, while involving considerable work, is not considered an accident unless significant damage is found.
9. Occurrences that involve an emergency evacuation are not counted as an accident unless someone receives serious injuries, or the aircraft has otherwise sustained sufficient damage.

Note 1.— Regarding aircraft damage which adversely affects the structural strength, performance or flight characteristics, the aircraft may have landed safely, but cannot be safely dispatched on a further sector without repair.

Note 2.— If the aircraft can be safely dispatched after minor repairs, e.g. patching a tail strike, and subsequently undergoes more extensive work to effect a permanent repair, then the occurrence would not be classified as an accident. Likewise, if the aircraft can be dispatched under the MEL (Minimum Equipment List) or CDL (Configuration Deviation List) with the affected component removed, missing or inoperative, the repair would not be considered as a major repair and consequently the occurrence would not be considered an accident.

Note 3.— The cost of repairs, or estimated loss, such as provided by insurance companies may provide an indication of the damage sustained, but should not be used as the sole guide as to whether the damage is sufficient to count the occurrence as an accident. Likewise, an aircraft may be considered a 'hull loss' because it is uneconomic to repair, without it having incurred sufficient damage to be classified as an accident.

1.1.3 NEW DEFINITION OF MAJOR ACCIDENT

1.1.3.1 A proposal was made to introduce a definition for a major accident. However, there was no support for the proposal.

1.1.4 DEFINITION OF SERIOUS INCIDENT

1.1.4.1 The meeting considered a proposal to include a limiting time-frame in the definition of serious incident identical to the existing time-frame in the definition of accident. The meeting agreed to insert words identical to the words in the definition of accident, i.e. “associated with the operation of an aircraft with the intention of flight which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked.”

1.1.4.2 The meeting further considered a proposal to change the definition of serious incident to read “An incident where there was a significant risk of an accident” in order to align the definition with risk management terminology and safety management systems principles. There was support for the proposal as well as views to maintain the existing definitions. It was also suggested that the proposal basically constituted an editorial change and as such should perhaps be left unchanged. After a discussion, the meeting agreed to amend the first part of the definition to read “an incident involving circumstances indicating that there was a significant risk of an accident”.

1.1.4.3 The meeting made the following recommendation:

RSPP	Recommendation 1.1/4 — Amendment to definition of incident
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Serious incident. An incident involving circumstances indicating that there was a significant risk of an accident ~~nearly occurred~~ associated with the operation of an aircraft with the intention of flight which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked.

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1.1.5 ATTACHMENT C TO ANNEX 13 — LIST OF EXAMPLES OF SERIOUS INCIDENTS

1.1.5.1 The meeting discussed a proposal concerning Attachment C to Annex 13 – List of examples of serious incidents. The proposal to include specific reference “uncontained turbine engine failures” was agreed to.

1.1.5.2 The meeting made the following recommendation:

RSPP	Recommendation 1.1/5 — Amendment to Attachment C in Annex 13 ATTACHMENT C. LIST OF EXAMPLES OF SERIOUS INCIDENTS ... 2. The incidents listed are typical examples of incidents that are likely to be serious incidents. The list is not exhaustive and only serves as guidance to the definition of serious incident. ... Aircraft structural failures or engine disintegrations, including uncontained turbine engine failures, not classified as an accident. ...
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1.1.6 DEFINITION OF FLIGHT RECORDER

1.1.6.1 The meeting agreed to defer a discussion on an amendment to the definition of flight recorder to agenda item 1.7.

1.1.7 DEFINITION OF SAFETY RECOMMENDATION

1.1.7.1 The meeting next discussed the definition of safety recommendation. A proposal to align the definition with the objective of an investigation (not to apportion blame or liability) by adding that a safety recommendation in no case creates a presumption of blame or liability for an accident or incident was agreed to.

1.1.7.2 Two proposals and several suggestions for amendment of the definition were made in order to indicate that a safety recommendation may also stem from several other sources such as safety studies. The meeting also discussed whether safety recommendations could be made by other entities or bodies than the authority carrying out investigations of accidents and incidents within the framework of Annex 13. The meeting noted that the definition of safety recommendation must be seen and considered in the context of Annex 13. Annex 13 could not reasonably be expected to deal with safety actions proposed or initiated by other authorities and resulting from other safety activities than investigations within the framework of Annex 13. After a discussion, the meeting agreed to include in the definition the words now included in paragraph 8.8 of Annex 13 “In addition to safety recommendations arising from accident and incident investigations, safety recommendations may result from diverse sources, including safety studies”, on the understanding that such safety studies were based on investigations and made by the authority responsible for investigations within the Annex 13 framework.

1.1.7.3 The meeting made the following recommendation:

RSPP Recommendation 1.1/6 — Amendment to the definition of safety recommendation

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Safety recommendation. A proposal of ~~an~~ the accident investigation authority of the State conducting the investigation, based on information derived from ~~an~~ the investigation, made with the intention of preventing accidents or incidents and which in no case creates a presumption of blame or liability for an accident or incident. In addition to safety recommendations arising from accident and incident investigations, safety recommendations may result from diverse sources, including safety studies.

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1.1.7.4 Following the approval of the recommendation above, there were still diverging views as to whether the issuance of safety recommendations were the exclusive prerogative of the State conducting the investigation. The meeting eventually decided that States participating in the investigation could also issue safety recommendations on the understanding that the issuance of such safety recommendations should be coordinated with the State conducting the investigation. It was decided that this latter point would be the subject of a note to paragraph 6.8 in Annex 13. Consequently, the meeting made the following recommendation:

RSPP Recommendation 1.1/7 — Addition of a note to paragraph 6.8

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6.8 ...

Note.- Precedence for the issuance of safety recommendations from an accident or incident investigation should be given to the State conducting the investigation; however, in the interest of safety, other States participating in the investigation may issue safety recommendations after coordinating with the State conducting the investigation.

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1.1.8 DEFINITION OF ACCREDITED REPRESENTATIVE

1.1.8.1 Next, the meeting considered a proposal to amend the definition of accredited representative by including words indicating that the designated accredited representative would normally be from the accident investigation authority. A number of changes to the proposal were also discussed. Views were also expressed in support of maintaining the existing definition. The meeting agreed to insert a second sentence to the existing definition along the lines: "Where the State has established an accident investigation authority, the designated accredited representative would normally be from that authority."

1.1.8.2 The meeting made the following recommendation:

RSPP Recommendation 1.1/8 — Amendment to definition of Accredited representative

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Accredited representative. A person designated by a State, on the basis of his or her qualifications, for the purpose of participating in an investigation conducted by another State. Where the State has established an accident investigation authority, the designated accredited representative would normally be from that authority.

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