



ASSEMBLY — 38TH SESSION

TECHNICAL COMMISSION

Agenda Item 31: Aviation Safety — Emerging Issues

DIFFICULTIES ENCOUNTERED DURING MAJOR SAFETY INVESTIGATIONS: A EUROPEAN PERSPECTIVE

(Presented by Lithuania on behalf of the European Union and its Member States¹ and the other Member States of the European Civil Aviation Conference²; and by EUROCONTROL)

EXECUTIVE SUMMARY

The quality of major safety investigations into accidents and serious incidents involving large aircraft is sometimes lessened by difficulties associated with the defective application of the provisions of Annex 13 — *Aircraft Accident and Incident Investigation*. As a result, safety lessons go unlearned. This paper considers a variety of such circumstances and proposes ways in which the quality of investigations and their benefits for safety may be enhanced.

Action: The following recommendations are proposed for consideration by the Assembly:

- a) Whenever the State of Occurrence decides not to investigate a potentially serious incident, it should consider delegating the investigation, partially or wholly, to another State having a particular interest in the investigation, such as the State of the Operator or the State of Manufacture, as allowed under Annex 13;
- b) States should ensure that their Investigation Authority is functionally independent of any entity whose interests could conflict with its own or impair the objectivity with which it discharges its duties;
- c) States should develop cooperation arrangements between their investigation authorities, of either a bilateral or regional network character, including to support the dissemination of investigation reports (see below);
- d) States should ensure the better dissemination of safety investigation reports, including through their electronic publication and the production of courtesy translations into English; and
- e) ICAO should help ensure that States' safety investigation authorities have unrestricted access to all evidential material, by raising Annex 13 Recommendation 5.4.3 to a Standard and providing guidance on the establishment of protocols or agreements between national safety investigation authorities and judicial authorities.

¹ Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

² Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective A – Safety: Enhance global civil aviation safety.
<i>Financial implications:</i>	None
<i>References:</i>	Annex 19 — <i>Safety Management</i> (Section 3.2) Doc 9734, <i>Safety Oversight Manual</i> , Part B Doc 9958, <i>Assembly Resolutions in Force</i> (as of 8 October 2010) (Resolutions A37-5, A37-8 and A37-21) Doc 9935, <i>Report of the High-level Safety Conference (2010)</i> (Recommendation 3/3a)

1. INTRODUCTION

1.1 In the course of major safety investigations into accidents or serious incidents involving large aircraft, whether conducted in Europe or elsewhere, investigation authorities are regularly confronted with difficulties arising from the defective application of the provisions of Annex 13. This impairs the quality of investigations and prevents the aviation community from benefitting from safety lessons.

1.2 This paper considers such difficulties, and proposes actions intended to improve the quality of investigations and their impact on safety. Issues around the protection of safety information, while extremely important, are excluded here as being more properly discussed in the context of the report of the work of the Safety Information Protection Task Force.

2. KEY PRINCIPLES OF ANNEX 13

2.1 Annex 13 sets down a number of principles designed to guarantee the effectiveness and quality of safety investigations, addressing such key issues as timeliness of investigation, powers of delegation, the involvement of other parties, and public reporting. The Annex underlines in particular that the sole objective of safety investigations is to allow safety lessons to be drawn.

2.2 These principles make it clear that while the sovereignty of each ICAO Contracting State is of course to be respected, an accident and the lessons its investigation may yield belong to the international aviation community. The investigation is not, so to speak, the “property” of the State of Occurrence: the dissemination of its final report and the lessons learned contribute greatly to preventing a recurrence, within a “total safety system” approach.

3. DIFFICULTIES BEING ENCOUNTERED

3.1 Delegating an investigation

3.1.1 Annex 13 requires the State of Occurrence to investigate all accidents and serious incidents involving aircraft above 2,250 kg. It can, however, happen that the State of Occurrence, having perhaps limited resources or simply different investigative priorities, will classify an event as an incident, requiring no investigation, whereas the State of the Operator, State of Design or State of Manufacture may judge that an investigation needs to be conducted. Although the possibility granted by Annex 13 of delegating an investigation addresses such a circumstance very well, it is not always made use of, even where there is no objective reason not to do so.

3.2 **Independence and competence**

3.2.1 Investigators must be independent in the conduct of their investigation, and may not receive instructions from any outside body. Although today the investigating authority is often linked more or less directly to the civil aviation authority, investigators are nonetheless generally able to avoid conflicts of interest.

3.2.2 But the effectiveness of the investigation authority is not of course guaranteed by its independence. Investigators must also have professional competence and be able to bring sound judgement to the data and expertise provided by their advisers. This is a potential difficulty for many investigating authorities, which are constrained in conducting major investigation by a lack of resources – whether human, financial or (commonly) both.

3.2.3 An accident always calls into question the operator's ability to conduct operations safely, and may do the same in respect of the administrative authority's capacity to provide a sound safety environment. The independence of the investigating authority is a key factor in avoiding any risk of distortion of the analysis of the accident.

3.3 **Consultation and publication of Final Reports**

3.3.1 Although modern communication means are used increasingly to issue Final Reports etc., many investigation authorities are still able to publish only in paper form. This naturally leads to Final Reports having a much smaller readership – and smaller still, in the case of the (many) reports published only in the national language.

3.4 **Relationship between judicial and safety investigations**

3.4.1 The relationship between judicial and safety investigations raises complex issues, not least because the former will reflect legislation which differs from one country to another. Annex 13, and more recently the relevant EU legislation, has established the principle that the conduct of the judicial investigation must not impede that of the safety investigation. However, the solution proposed for cases where arbitration is needed to address a conflict between the two forms of investigation is not always practicable.

3.4.2 Difficulties may arise, for example, over access to the accident site, examination of the wreckage, or access to data captured in flight and/or voice recorders. Investigating judges sometimes keep recorders under guard for long periods, or prohibit their read-out outside the State even when there is no *national* capability to do so. Failure to read recorders promptly may pose a serious threat to safety, when a design or system defect is suspected.

3.4.3 Decisions to undertake a destructive investigative procedure, sometimes unavoidable, may be also blocked by judicial authorities, if there is no agreement in place with safety investigators. Finally, the safety investigation may be placed under the control of the judicial authorities, limiting the safety investigators' role to that of providing technical expertise.

4. PROPOSED ACTION

4.1 Ensure that all accidents and serious incidents are properly investigated

4.1.1 Authorities lacking the capacity to conduct a major accident investigation should be supported by another authority (or authorities) in possession of the appropriate resources. A number of scenarios for this can be envisaged:

- Investigation delegated by the State of Occurrence: Annex 13 contemplates the delegation of investigations by the State of Occurrence, a provision of which however insufficient use is made, in particular in relation to potentially serious incidents

Whenever the State of Occurrence decides not to investigate a potentially serious incident, it should consider delegating the investigation, partially or wholly, to another State having a particular interest in the investigation, such as the State of the Operator or the State of Manufacture, as allowed under Annex 13.

- Assistance from other authorities, whether bilaterally or regionally: Where such delegation would be inappropriate, in particular for major accidents, an authority without the capacity to conduct a full investigation should request support from another authority. In the absence of advance arrangements, this will often be the State of Design or Manufacture.

4.1.2 Some States have signed bilateral agreements with other authorities to secure support for investigations, on request, and on a larger or smaller scale. This support is generally limited to recorder read-outs, but may also involve methodological support, technical expertise or the participation of investigators. It is usually provided for free, although some agreements provide for financial compensation.

4.1.3 An alternative approach involves mutual assistance on a regional basis, whereby the States within a region are able to call upon one another's resources in order to undertake investigations otherwise beyond their capability.³ This also enables States to better determine the size of their investigation authority. Another alternative is the establishment of a regional investigation authority, though very few examples exist.

In order to address situations beyond their own investigative capacity, and to avoid the burden of maintaining an oversized authority, States should be encouraged to develop agreements for assistance and cooperation. Different frameworks can be considered: bilateral agreements with one or more major investigation authority; the creation of a regional network for assistance; or the establishment of a regional authority.

4.2 Strengthen the independence of the Investigation Authorities

4.2.1 Annex 13 requires the accident investigation authority to be independent in its conduct of investigations, but does *not* require the authority *itself* to be independent from other entities, such as the national civil aviation authority. It is desirable to go a little further than this, as EU legislation now does,

³ Examples within Europe are offered by the European Civil Aviation Conference's "ACC" group, and the EU's *European Network of Civil Aviation Safety Investigation Authorities*.

to require a “functional independence” which avoids conflicts of interest and possible external interference in determining the cause(s) of an event.

The investigation authority should be functionally independent of any other party or entity, the interests of which could conflict with the task entrusted to it or influence its objectivity.

4.3 **Ensure better access to reports**

4.3.1 The regular dissemination of safety learning to the aviation community contributes to the fight against the loss of collective memory. When safety learning is missed, forgotten or loses its former prominence, “old” accidents can re-occur. The safety investigation authority is thus an important actor in the dialogue on aviation safety matters at the national level, and in the “total safety system” context.

All reports published by investigation authorities should be downloadable from an internet website, and those of international interest should preferably be accompanied by a courtesy translation into English, leaving the original language text as the work of reference. In each case, this might be achieved with the support of another State.

4.4 **Ensure a proper balance between the prevention of future accidents and the proper administration of justice**

4.4.1 The Annex 13 provision regarding the timely access of safety investigators to all evidential material, unimpeded by judicial investigations or proceedings, has presently the status of a recommendation.

To ensure its better applicability, this provision should be raised to a Standard and guidelines prepared on the setting up of protocols or agreements between accident investigation authorities and judicial authorities.

5. **RECOMMENDATIONS**

5.1 The Assembly is invited to consider the recommendations under the action in the executive summary box of this working paper.