



WORKING PAPER

ASSEMBLY — 40TH SESSION

TECHNICAL COMMISSION

Agenda Item 29: Aviation Safety and Air Navigation Regional Implementation Coordination Mechanisms

RESILIENCE TO A MAJOR ACCIDENT – COOPERATION, MUTUAL SUPPORT AND REGIONAL ACCIDENT AND INCIDENT INVESTIGATION ORGANISATIONS (RAIOS)

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

EXECUTIVE SUMMARY

Contracting States have an international obligation to investigate aircraft accidents and serious incidents and to issue Final Reports within a reasonable timeframe. These reports with their lessons learned are highly valuable for the international aviation community and for safety management.

To fulfil their international obligations, Contracting States also have the possibility to delegate such investigation to another State or to an RAIO. However, there are challenges and difficulties to fully delegate a major accident investigation. Regional cooperation and mutual support help to be resilient when facing a major accident. It can also provide economies of scale by allowing for the sharing of required resources.

This working paper puts emphasis on the Annex 13 — *Aircraft Accident and Incident Investigation* obligations that each Contracting State has to abide by, aims to encourage mutual support between States and to expand the concept of RAIOs to include the global experience of other models and best practices that have been developed.

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

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

<p>Action: The Assembly is invited to:</p> <p>a) reaffirm the importance of effective and independent accident investigations in accordance with Annex 13 to the Chicago Convention, in particular the obligation and value of publishing Final Reports for further improving aviation safety globally;</p> <p>b) call upon Contracting States to promote mutual support within their region or sub-region and to foster regional cooperation in order to fulfil their international obligation to conduct effective and independent accident investigations to enhance aviation safety while recognizing the national accountabilities in the event of a major accident crisis;</p> <p>c) direct ICAO to recognize the recent initiatives related to regional cooperation and to review the Doc 9946, <i>Manual on Regional Accident and Incident Investigation Organization</i> to enrich it with the different concepts of Regional Accident Investigation (RAI) mechanisms in order to encourage more Contracting States to seek to cooperate in a pragmatic manner that suits their geographical, cultural, political and/or legal environment; and</p> <p>d) endorse the actions proposed in this Working Paper.</p>	
<i>Strategic Objectives:</i>	This working paper relates to the Safety Strategic Objectives.
<i>Financial implications:</i>	None
<i>References:</i>	A38-12, Appendix N: Cooperation among Member States in investigations of aircraft accidents Annex 13 Doc 9946, <i>Manual on Regional Accident and Incident Investigation Organization</i>

1. INTRODUCTION

1.1 Each Contracting State, in which an accident occurred, has the obligation to institute an investigation in accordance with Article 26 of the Chicago Convention.

1.2 In 2016, Amendment 15 modified Annex 13 by notably adding a definition for an accident investigation authority. Standard 3.2 of Annex 13 now stipulates that: “A *State shall establish an accident investigation authority that is independent from State aviation authorities and other entities that could interfere with the conduct or objectivity of an investigation.*”

1.3 Because of the changing regulatory, economic and technical environment as well as the growing sophistication and complexity of modern aircraft, the conduct of an accident or serious incident investigation requires participation by experts from many specialized technical and operational fields and access to specially equipped facilities for investigation. These resources and assets are not necessarily available in all ICAO Contracting States.

1.4 ICAO Assembly Resolution A38-12 (Appendix N) recommends that Contracting States cooperate in the investigation of aircraft accidents, especially accidents in which the investigation requires highly specialized experts and facilities. It also recommends the provision for expert assistance and facilities for the investigation of major aircraft accidents on request by other Member States.

1.5 The ICAO Universal Safety Oversight Audit Programme (USOAP) in the accident investigation field indicated findings that have been associated, in general, with a lack of resources (human, material and financial) and a number of issues related to regulations and organization for the investigation of accidents and incidents.

1.6 Cooperation in the field of accident investigations represents the way forward consistent with the spirit of the No Country Left Behind (NCLB) initiative which would contribute to improve safety.

2. DISCUSSION

2.1 **Importance of effective and independent investigations.** Effective identification of aviation hazards and correction of system deficiencies are required in order to support risk management processes that contribute to further enhance accident prevention and to reduce the number and severity of accidents.

2.2 Contracting States have an international obligation to investigate aircraft accidents and serious incidents and to issue Final Reports within a reasonable timeframe. The accident investigation authorities play a core role in the effective identification of aviation hazards. Their work is of the utmost importance in determining the causes of an accident or incident and in drawing lessons for the improvement of aviation safety. Their public reports are highly valuable for the international aviation community and for safety management.

2.3 A review of 1 157 fatal accidents³ indicated that 59 per cent of the Final Reports were not publicly available. The lack of these Final Reports means that relevant safety information is not available to implement safety actions. In some cases, States that participated in such investigations were aware of safety issues but unable to disseminate the information as the responsibility was with the State conducting the investigation to release information either in the Final Report or in an interim statement. Upcoming Amendment 17 to Annex 13 would already entitle States participating in the investigation to request consent to release a statement containing safety issues, if the State conducting the investigation would not publish the Final Report or an interim statement within a reasonable timeframe.

2.4 There is a difference between a State that does not want to release the Final Report, and a State that is unable to conduct an investigation on its own due to resources constraints and does not seek assistance nor delegate it to another State. Annex 13 already contains sound provisions regarding participation of States, assistance and delegation that need to be reaffirmed in the context of this Assembly.

2.5 Accident investigations, especially when dealing with major accidents, are not only a technical activity, but have to take into account the socio-political crisis context surrounding a major accident. At a national level, numerous organizations are involved and interact with the accident investigation authority in response to a major accident, in particular the judicial authorities. Annex 13 (Standard 5.10) stipulates that: *“The State conducting the investigation shall recognize the need for coordination between the investigator-in-charge and the judicial authorities.”* Depending on each State’s organisation, other non-aviation institutions are also involved such as Foreign Affairs, Ministry of Interior, Ministry of Justice, Ministry of Health or Ministry of Defence. A major civil aviation accident represents a national (and international) crisis that goes beyond the domain of civil aviation.

³ Accidents that occurred between 1990 and 2016 involving aircraft with a MCTOM over 5 700 kg.

2.6 **Delegation and regional cooperation.** During the period from 1999 to 2019, only three investigations on major accidents involving more than 100 fatalities were delegated to another State. While serious incidents are commonly delegated, States generally prefer to fulfil their international obligations by using their own organisations. On the rare occasions where the investigation was delegated, the States involved were challenged with cultural or political differences.

2.7 Regional cooperation in investigations can provide economies of scale by allowing for the sharing of required resources. By working together, States of a region or sub-region can conduct an effective accident and incident investigation system and then have a stronger voice globally, notably when encouraging safety actions and issuing safety recommendations for more effective improvements in aviation safety and accident prevention.

2.8 Considering that data available from Aircraft Tracking, Autonomous Distress Tracking, Deployable Flight Data Recorder and Data Streaming options may be useful to the investigation but may be located in multiple States other than the State responsible for the investigation, it will be increasingly important that States having access to information relevant to the accident cooperate to optimize the overall efficiency of the Global Aeronautical Distress and Safety System (GADSS).

2.9 Accident investigation activities go beyond the field of civil aviation, involving other authorities and are often associated to a socio-political crisis with ripple effects on other domains not covered by the Chicago Convention. In comparison, the activities of safety oversight involving civil aviation authorities and stakeholders, hence making regional cooperation on safety oversight less challenging than in the field of investigations.

2.10 Regarding regional cooperation, ICAO has used the term RAIO in a very broad manner (on the ICAO website on the subject⁴, five regional initiatives are listed). They all have different features such as network of cooperation, regional mechanism, or a stand-alone entity capable of conducting an investigation upon delegation from its members. The only RAIO known to operate along the Doc 9946 model is the Interstate Aviation Committee⁵, which was established in 1991 prior to the publication of this guidance material. The various models of cooperation chosen by States do not necessarily constitute an ‘organisation’ and therefore there should be a broader term in use than the term ‘RAIO’. A number of ICAO regions⁶ have recently focused on cooperation in the field of accident investigation. For example, the European Network of Civil Aviation Safety Investigation Authorities (ENCASIA) for European Union Member States that respects the sovereignty of each ICAO Contracting State represents a pragmatic model for regional cooperation in the field of safety investigation.

2.11 ENCASIA has developed the ENCASIA Mutual Support System (EMSS), which is intended to help accident investigation authorities with limited resources or experience to investigate a major complex aircraft accident. This cooperative system was inspired by the longstanding “*European Civil Aviation Conference (ECAC) Code of Conduct on Cooperation in the Field of Civil Aviation Accident and Incident Investigation*” which exists for all ECAC 44 Member States⁷. EMSS is a voluntary process that helps these authorities identify their capability gaps and to develop contingency plans and

⁴ <https://www.icao.int/safety/Implementation/Pages/COSCAPs-RSOOs-RAIOs.aspx>

⁵ The Interstate Aviation Committee represents Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

⁶ For example, the RASG-MID Steering Committee in Cairo, Egypt on 25-27 June 2018 presented a draft roadmap concerning the enhancement of cooperation between the Middle East and North Africa (MENA) States in the field of accident investigation. More recently, the ICAO North American and Caribbean Office organised a meeting for RAIOS and a Workshop on Accident Investigation and Prevention (AIG) Implementation, in Mexico on 12-15 March 2019. It was followed by a RASG-EUR Accident investigation and ECCAIRS user workshop held in the Paris Regional Office on 8-10 April 2019.

⁷ See ECAC website for more details.

prior arrangements with other safety investigation authorities. Another example is South America where cooperation is achieved through a regional mechanism that shares the same objective as ENCASIA. These are examples of Regional Accident Investigation (RAI) mechanisms to provide mutual support rather than delegating full investigations, which are not reflected in the ICAO Manual on RAIOS (Doc 9946) that was published in 2011 and would need to be updated to cover them. These RAI mechanisms should be strengthened and clarified in order to foster more cooperation in this field at sub-regional and regional levels.

3. CONCLUSIONS

3.1 There is a need to recognize the difficulties of delegating the investigation of major civil aviation accidents and to promote sub-regional and regional mechanisms that do not necessitate full delegation. Hence, it is key to encourage various forms of cooperation, which need to be customized to a geographical, cultural, political and/or legal specific environment. This could also go beyond regions through the establishment of transcontinental mechanisms, especially between countries or sub-regions that have historical, linguistic and cultural links.

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