



WORKING PAPER

ASSEMBLY — 39TH SESSION

TECHNICAL COMMISSION

Agenda Item 35: Aviation safety and air navigation standardization

STATE SAFETY PROGRAMME AND ANNEX 13 — AIRCRAFT ACCIDENT AND INCIDENT INVESTIGATION

(Presented by the Republic of Korea)

EXECUTIVE SUMMARY

The chapter titled “accident prevention” in Annex 13 – *Accident and Incident Investigation* was initially adopted by the Council in 1981. The first item of this chapter was “safety recommendation” on investigation results. This chapter was added with “mandatory/voluntary safety reporting system” requirements in the 1990s and finally was developed into the State Safety Programme (SSP) in 2009. Recognizing the importance of safety management, a new Annex dedicated for safety management was born as the nineteenth Annex in 2013. Standards and Recommended Practices (SARPs) for SSP and safety reporting system were transferred to the new Annex and only SARPs related to investigation activities are left in Annex 13.

Recently, Annex 19 – *Safety Management* was amended with a new framework of SSP, composed of four components and fourteen elements. “State safety risk management”, one of the four components of SSP, is composed of five elements including the “accident and incident investigation.” Taking into account the relation among the elements of “State safety risk management,” clarification on scope of application, purpose, and responsible authority for investigation is required to be further considered for clear understanding and effective implementation of the SSP.

Action: The Assembly is invited to:

- a) note the information presented in this working paper; and
- b) recommend ICAO to consider development of SARPs to expand the scope of applicability of investigation and to clearly distinct the responsibilities in investigation between the Accident Investigation Authority and the State Aviation Authority.

<i>Strategic Objectives:</i>	This working paper relates to the Safety Strategic Objective.
<i>Financial implications:</i>	This working paper has no significant financial implications.

<i>References:</i>	Annex 13 – <i>Accident and Incident Investigation</i> Annex 19 – <i>Safety Management</i> Doc 9156, <i>Accident/Incident Reporting (ADREP) Manual</i> Doc 9859, <i>Safety Management Manual (SMM)</i> Report on Universal Safety Oversight Audit Programme Continuous Monitoring Approach (USOAP CMA) Results, 1 st January 2013 to 31 st December 2015
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1. INTRODUCTION

1.1 The State Safety Programme (SSP) was initially adopted into Annex 13 – *Accident and Incident Investigation* in March 2009 (Amendment 12-B). However, recognizing the importance of safety management, a new Annex dedicated for Safety Management was established in 2013. This new Annex consolidates material from existing Annexes regarding SSP and safety management system (SMS), as well as related elements including the collection and use of safety data and the Member State safety oversight activities.

1.2 Recently, in July 2016, the SSP framework was reorganized for effective implementation based on the State Safety Oversight (SSO) system. The “State safety risk management” of the new SSP is composed of five elements and two of them are related to investigation. Provisions for “3.3.3 Accident and incident investigation” and “3.3.4 Hazard identification and safety risk assessment” are related to investigation activities. However, questions for these two elements regarding the relation with Annex 13 could arise, because of the differences in their roles and scope in investigation. This working paper is for consideration on clarification of the scope of application, purpose and responsible authority of accident and incident investigation under the SSP.

2. HISTORICAL BACKGROUND OF INVESTIGATION IN ANNEX 13

2.1 The first edition of Annex 13 named “Aircraft Accident Inquiry” was adopted by the Council on 11 April 1951. The scope of applicability on investigation was limited to aircraft accidents.

2.2 Amendment 4 of Annex 13, adopted on December 1972, introduced the definition for “aircraft incident,” which is now called “incident,” and adopted Standards and Recommended Practices (SARPs) requiring Member States for notification and exchange of information concerning aircraft incidents. However, its scope of applicability on investigation was still limited to aircraft accidents.

2.3 The title of Annex 13 (Amendment 5) was changed to “Aircraft Accident Investigation” with adoption on 18 December 1975, noting that in many States the word “Inquiry” had judicial connotations, which seemed undesirable in Annex 13, mainly concerned with technical considerations. In addition, Amendment 5 of Annex 13 has introduced the concept of mainly interested type of incidents, supported by *the Accident/Incident Reporting (ADREP) Manual* (Doc 9156) and SARPs for incident investigation. However, it was noted that nothing in Annex 13 is intended to impose an obligation on States to conduct an investigation into an incident.

2.4 The 8th edition of Annex 13 (Amendment 9), adopted on 23 March 1994, changed its title to “Aircraft Accident and Incident Investigation” and introduced requirements for notification and investigation of serious incidents. In line with this changing policy, a new definition of “serious incident” was added, which was previously the mainly interested type of incident introduced in Doc 9156-AN/900.

2.5 These are the major changes made to Annex 13 and the main items of Amendment 9 are still applied in the current version of Annex 13 (11th Edition, Amendment 15). Incident, which is not included in the definition of serious incident (hereinafter “non-serious incident”), is not applicable to requirements of “Notification (Annex13, Chapter 4)” and “Investigation (Annex13, Chapter 5).”

3. DISCUSSION

3.1 As the methodologies of safety management were improved, SARPs requiring Member States to identify hazards were adopted as a part of the SSP. Annex 19 – *Safety Management, second edition*, requires Member States to conduct “Accident and incident investigation in accordance with Annex 13 (provision 3.3.3)” and “Hazard identification from the collected safety data (provision 3.3.4)” as a part of the “State safety risk management” component. Related to this subject, *the Safety Management Manual (SMM)* (Doc 9859) (3rd Edition, Chapter 2) guides that reactive hazard identification, which involves analysis of past outcomes or events, be conducted through investigation of safety occurrences. The scope of investigation for reactive hazard identification does include accident, serious incident and non-serious incident. Of course, investigations for non-serious incidents are only conducted if needed for hazard identification.

3.2 ***Accident and incident investigation (Annex 19, 3.3.3)*** Provision “3.3.3 Accident and incident investigation” is a requirement mainly for accident investigation authority of a Member State. The accident investigation authority is mainly responsible for investigating the cause of accidents and serious incidents and issuing safety recommendations. In many Member States with mature safety oversight systems, the State aviation authority also participates in the investigation to determine the appropriateness of related regulations, facilities or support the accident investigation authority.

3.3 ***Hazard identification (Annex 19, 3.3.4)*** Hazard identification, according to provision “3.3.4 Hazard identification and risk assessment”, is required mainly for the State aviation authority. Hazard identification is required to be based on combination of reactive and proactive methods. Related to the reactive methodology of hazard identification, State aviation authorities in many Member States are conducting investigation on non-serious incidents, which need to be investigated, aiming to find out the cause of the occurrence and determine the appropriateness of relevant regulations and facilities.

3.4 As many Member States are also conducting investigation on non-serious incidents, under the SSP, confusion could arise on understanding SARPs between Annex 13 and Annex 19 regarding investigation. Considerations of expanding the scope of applicability of investigation in Annex 13 are required. And further, it is recommended to establish SARPs for clear distinction of responsibilities in investigation between the accident investigation authority and the State aviation authority.

4. CONCLUSION

4.1 Investigation is one of the most important basic methodologies for accident prevention. Since 1951, Annex 13 has been evolving with the history of safety and the Republic of Korea believes that it is time to consider its next improvement in line with the SSP. The Report on Universal Safety Oversight Audit Programme Continuous Monitoring Approach Results (1 January 2013 to 31 December 2015) shows that Member States having most difficulties in implementing SARPs for “Accident and Incident Investigation (AIG)” among the eight audit areas. Further improved SARPs for Annex 13 could support Member States in implementing not only the AIG audit area but also the SSP.