



WORKING PAPER

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

Montréal, 13 to 18 October 2008

Agenda Item 1: Annex 13

1.4: Format of the Final Report in Annex 13

CONCLUSIONS IN FINAL REPORTS

(Presented by the Secretariat)

SUMMARY

This paper reviews the use of the word “cause” in the Final Report of an accident or incident instead of “contributing factors”.

Action by the meeting is in paragraph 4.

1. INTRODUCTION

1.1 In the Appendix to Annex 13 — *Aircraft Accident and Incident Investigation*, a format of the Final Report of an accident or incident investigation is suggested. In this format, the “findings” and “causes” established in the investigation should be listed. The list of causes should include both the immediate and deeper systemic causes.

1.2 This paper considers the need to replace the word “cause” with “contributing factors” in the Final Report so as to bring the focus of the Final Report in line with safety management concepts.

2. DISCUSSION

2.1 Current use of the word “cause”

2.1.1 In Annex 13, “causes” is defined in Chapter 1 as:

Actions, omissions, events, conditions, or a combination thereof, which led to the accident or incident.

2.1.2 In the ICAO *Manual of Aircraft Accident and Incident Investigation*, Part IV — *Reporting* (Doc 9756) the Appendix 1 to Chapter 1 attempts to clarify further what is meant by the “Causes” as suggested in the format of the Final Report. It describes it as follows:

Causes are those events which alone, or in combination with others, resulted in injuries or damage. A cause is an act, omission, condition or circumstance which if eliminated or avoided would have prevented the occurrence or would have mitigated the resulting injuries or damage.

2.1.3 The above-mentioned document proceeds to explain that the determination of causes should be based on a thorough, impartial and objective analysis of all the available evidence. Any condition, act or circumstance that was a causal factor in the accident should be clearly identified. Seen together, the causes should present a picture of all the reasons why the accident occurred. Since the formulation of causes should not be blame-setting in nature, the statement on causation should focus on functions that were not performed at the required level for safe operations.

2.1.4 Accidents need a number of enabling factors to come together — each one necessary but in itself not sufficient to breach system defences. The breaches in safety defences are seldom caused by a single event and are often due to human failures in decision-making processes. Furthermore, breaches in safety defences may involve not only active failures at the operational level, but also latent conditions at the organizational level.

2.2 Replies by States

2.2.1 In response to State letter SD 37/1-07/1, which sought comments by States for agenda items for the AIG Divisional Meeting (2008), several States commented in agreement with the proposed change. It was commented that it would be essential due to the present emphasis on “accident prevention” and for this objective to be realized, it would be necessary to adopt SMS principles. Another State commented that there should be a method for highlighting the importance/priority of findings. There was also a view that “cause” is exclusive in a sense, whereas “contributing factors” are not.

2.2.2 Other States commented that “cause” needs to be maintained and used together with “contributing factors”. One of the views was that establishing a cause would be fundamental to the investigation, as this would guide accident prevention actions; otherwise, it would lessen the effect of the findings. Further comments referred to some States’ legislation that requires finding statements and the establishment of a “cause”. In addition, a lack of definitive causal factor from an official source would likely make other interested parties formulate independent conclusions of “cause” that could be irrelevant or incorrect.

2.3 Further discussions

2.3.1 During further discussions with a group of States, the Secretariat felt the need to expand the definition of “causes” in Chapter 1 of Annex 13 to emphasize that “causes” should not implicate liability. A further change was to add “contributing factors” in the text under the main heading 3 – “Conclusions” of the Format of the Final Report in the Appendix to Annex 13. It is therefore suggested that amendments to Annex 13 are undertaken accordingly.

3. CONCLUSION

3.1 The definition of “causes” is set forth in Chapter 1 of Annex 13. The format of the Final Report in the Appendix to Annex 13 is a Recommended Practice (paragraph 6.1 refers) and it may be

adapted to the circumstances of the accident or incident. This provides States with the freedom to determine “causes” and/or “contributing factors” in their Final Reports, being the goal of the investigation to identify the active failures and latent conditions that allowed the safety defences to be breached.

3.2 The suggested changes to the definition of “Causes” and the format of the Final Report will accentuate the safety goal of the investigations.

4. **ACTION PROPOSED**

4.1 The meeting is invited to consider the amendments in the Appendix which include:

- a) expanding the definition of “Causes” in Chapter 1 of Annex 13; and
- b) adding “contributing factors” under “Conclusions” of the Format of the Final Report in the Appendix to Annex 13.

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APPENDIX

PROPOSED AMENDMENT TO ANNEX 13

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CHAPTER 1. DEFINITIONS

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Causes. Actions, omissions, events, conditions, or a combination thereof, which led to the accident or incident, and which do not infer the assignment of fault or the determination of administrative, civil or criminal liability.

...

APPENDIX. FORMAT OF THE FINAL REPORT (See Chapter 6)

...

3. CONCLUSIONS

List the findings and, causes and contributing factors established in the investigation. The list of causes should include both the immediate and the deeper systemic causes.

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