



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

REPORTING OF CONTRIBUTORY FACTORS IN THE FINAL REPORT

(Presented by Australia)

SUMMARY

The paper supports the proposal to include contributing factors in the final investigation report of an accident or serious incident. However, the paper proposes that contributory factors be presented as an alternative option to causes. Further amendments are proposed to ensure consistency throughout Annex 13 wherever the term causes is referred to. An amended definition of causes/contributing factors is also proposed.

Action by the meeting is in paragraph 3.

1. INTRODUCTION

1.1 While all safety investigations should involve probabilistic assessment of causality, Australia has for many years been a strong proponent of the use of terminology such as ‘contributing safety factors’ which better reflects the often multi-factorial causality of many accidents and incidents in complex systems. Assessing a single ‘probable cause’ can be potentially misleading or simplistic and encourages the attribution of blame to only one element in a system. Further, the use of ‘cause’ in safety investigation reports can be confused with legal use of the same terminology in proceedings for blame or liability.

1.2 Recognising that there is unlikely to be a consensus to remove ‘causes’ from Annex 13 — *Aircraft Accident and Incident Investigation*, Australia supports the intent of the proposed amendments in WP/8. However, rather than simply adding the words ‘contributing factors’ to the conclusions in the format of the final report, it is proposed that the words ‘causes/contributing factors’ be used here, in the chapter 1 definitions and in standard 5.4 (c). This would assist States who do not wish to use the term causes but only use ‘contributing factors’. Alternatively, if States wish to use both terms they may. The definition of causes should also be modified to include a proposed definition of contributing factors, adapted from a similar definition adopted by the International Maritime Organisation (IMO).

2. DISCUSSION

2.1 Cause, causation and legal implications.

2.1.1 When looking at factors that contribute to an accident from an investigation perspective, Australia uses the term ‘contributing safety factors’ instead of causes. A ‘contributing safety factor’ is a safety factor that, if it had not occurred or existed at the relevant time, then either the occurrence would probably not have occurred, adverse consequences associated with the occurrence would probably not have occurred or have been as serious, or another contributing safety factor would probably not have occurred or existed. The term ‘probably’ is defined as being equivalent to ‘likely’ and meaning more than 66 per cent likelihood consistent with usage by the Intergovernmental Panel on Climate Change. This definition adopts a ‘link-by-link’ approach, where the judgement about whether a safety factor contributed to the development of an occurrence is made in terms of its relationship to either the occurrence or to another contributing safety factor.

2.1.2 On the other hand, in attempting to identify the cause of an accident that resulted in damage, the legal mind looks to establish and attach legal liability. In the law of Torts, questions of causation are inextricably linked to the entitlement to recovery against a defendant, where that defendant is held responsible for the identified damage. In law, as in investigation, causation is essentially a question of fact and judgement. However, the focus of the enquiry is entirely different, and, as a consequence, the result may be entirely different. For example, in Tort, liability may attach to a cause that is found to have ‘material effect’, irrespective of other factors or conditions that may have played a significant, or even more significant, role in producing the damage. The focus has moved from all relevant factors to the relevant factor(s) for legal purposes, based on the information presented by the parties. Further, legal liability may be denied due to a finding that another occurrence has intruded—all other relevant factors are ignored due to the relevant legal factor(s).

2.1.3 Ultimately, the legal purpose and the investigative purpose for finding causation are fundamentally divergent. Unfortunately, in court proceedings, cause is irrevocably identified with the attribution of blame and legal compensation. As demonstrated above, the methodology and principles behind the identification of contributing factors in no-blame accident investigation differ in many significant aspects from a legal enquiry into cause and blame. That does not, and should not, diminish the value of the conclusions made under either enquiry with respect to the particular purpose they serve. However, to use language grounded in legal liability in making investigative conclusions invites attempts to draw a legal conclusion from an Annex 13 investigator’s enquiry—contrary to the purpose of safety investigation. Australia strongly supports a proposal that States be given the choice between reporting causes/contributory factors to encourage movement towards the latter.

2.2 Other Annex 13 references to Causes

2.2.1 The proposed amendment to the Appendix will result in some contradiction between Recommended Practice 6.1 and other parts of Annex 13. This arises with respect to: the definitions of **Investigation** and **Causes**; as well as in Standards 5.4 c) and 5.25 h). These areas should be modified to reflect the option of identifying causes/contributing factors.

2.3 A Definition of Causes/Contributing factors

2.3.1 Under the guidance given in the Foreword to Annex 13, the Appendix forms part of Recommended Practice 6.1. The proposed amendment to the Appendix has introduced a new term into the Annex, ‘contributing factors’, but has not defined that term. The International Maritime Organisation recently adopted the Casualty Investigation Code. That Code includes a definition of a ‘causal factor’. This definition could helpfully be modified and adopted, and included within the **causes** definition put to

the AIG in AIG/08-WP/8. However, the definition should be relabelled ***causes/contributing factors*** as noted in the proposed actions. Further, a note should be added after the definition that states that the use of contributing factors is preferred to causes due to the legal interpretation, as well as the inference of blame and liability, associated with cause(s).

3. ACTION PROPOSED

3.1 The meeting is invited to:

3.1.1 Adopt a proposal that will result in the following amendments to the Appendix:

3.1.1.1 Item **3 Conclusions** to be amended to ‘List the findings, and the causes/contributing factors established in the investigation. These should include both the immediate and the deeper systemic causes/contributing factors.’

3.1.1.2 Item **2 Analysis** to be amended to read ‘... the determination of conclusions, causes/contributing factors’.

3.1.2 Consider further amendment to Annex 13 in the following areas, where there is reference to cause(s):

3.1.2.1 The definition of ***Investigation*** should be amended to ‘the determination of causes/contributing factors’.

3.1.2.2 Standard 5.4 paragraph c) should be amended to ‘if possible, the determination of causes/contributing factors’.

3.1.2.3 Standard 5.25 h) should be amended to ‘participate in investigation progress meetings including deliberations related to ... causes/contributory practices’.

3.1.2.4 The definition of ***Causes*** should be amended to the following:

Causes/Contributing Factors. Actions, omissions, events, conditions or a combination thereof, which led to the accident or incident, and without which:

1. the accident or serious incident would not have occurred; or
2. adverse consequences associated with the accident or serious incident would probably not have occurred or have been as serious;
3. another action, omission, event or condition, associated with an outcome in 1. or 2. would probably not have occurred.

Note: Findings, causes/contributing factors established in the investigation do not infer the assignment of fault or the determination of administrative, civil or criminal liability.