



**WORKING PAPER**

**ASSEMBLY — 40TH SESSION**

**TECHNICAL COMMISSION**

**Agenda Item 30: Other issues to be considered by the Technical Commission**

**CARE PROTOCOL FOR INVESTIGATORS OF MAJOR ACCIDENTS**

(Presented by Argentina)

**EXECUTIVE SUMMARY**

This working paper presents a proposal for post-fieldwork psychophysical monitoring of aircraft accident investigators, if they have been exposed to various aggressive agents or hazards. Some of these aggressive agents are not linked directly to aircraft remains. Hazards may be biological (human or animal remains), cargo, characteristics of the accident site, ground-based installations and other factors.

**Action:** The Assembly is invited to:

- a) take note and comment on the information contained in this working paper, and consider the current situation of potential physical, biological and psychological aggressive agents to which aircraft accident investigators are exposed while working in the field;
- b) forward the conclusion of this working paper to the Council for consideration;
- c) encourage States to take action to protect aircraft accident investigators from possible physical and psychological harm as a result of fieldwork exposure a to various noxa;
- d) encourages States to support Regional Aviation Safety Groups (RASGs) and Planning and Implementation Regional Groups (PIRGs) in conducting preventive procedures for the detection and treatment of diseases that develop as a result of aircraft accident investigation;
- e) urge States to provide timely information on progress in the implementation of plans for the treatment and prevention of diseases that develop as a result of accident investigation; and
- f) submit to the Council for consideration the proposed establishment of a procedure to identify hazards, examine persons who have been exposed, and diagnose and treat efficiently and timeously pathologies likely to be caused by the fieldwork of aircraft accident investigators.

<i>Strategic Objectives:</i>	This working paper relates to the Safety Strategic Objective in the work of aircraft accident investigators.
<i>Financial implications:</i>	The activities covered by this working paper will be implement to the extent that resources are available under the purpose-specific programme budget or extra budgetary contributions.

<sup>1</sup> Spanish version provided by Argentina.

<i>References:</i>	<i>Annex 13 – Aircraft Accident and Incident Investigation.</i> <i>Manual of Aircraft Accident and Incident Investigation (Doc 9756).</i> <i>Manual on Accident and Incident Investigation Policies and Procedures (Doc 9962).</i> <i>Manual of Civil Aviation Medicine (Doc 8984, Chapter 1 “Medical factors in aircraft accident investigation”).</i> <i>Hazards at Aircraft Accident Sites (Circular 315).</i>
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## 1. INTRODUCTION

1.1 There are usually countless hazards in situations in which investigators perform fieldwork investigation tasks. The risk of potential damage to physical and psychological health is obviously higher in some cases, and varies according to the aggressive agents present, which are determined by event-specific characteristics.

1.2 There are various ICAO documents and manuals on those hazards, in particular Circular 315 — *Hazards at Aircraft Accident Sites* which describes hazards and risks, and means of protection recommended for investigators.

1.3 In view of the above, it must be recommended that clinical, laboratory and psychological tests be conducted, as appropriate, so that on completion of fieldwork and, depending on the hazards to which investigators have been exposed, tests can be done to ascertain their state of health.

## 2. GOALS OF POST-FIELDWORK MEDICAL CHECK-UPS

2.1 The main goal is to detect and find signs of potential damage to the health of field investigators as a result of exposure to various hazards likely to be present at the accident site.

## 3. EXAMINATION PRIORITIES AND DESIRABILITY

3.1 The priority and desirability of conducting clinical, psychological and laboratory tests will depend on whether there is an emergency (need for immediate care owing to danger to life), urgency (need for short-term care without endangerment to life or worsening of the clinical situation) or deferral of care if medical attention or psychological support can be received on return from the field investigation without neglecting the need for prompt attention.

3.2 If obvious hazards are encountered at the accident site, one must not wait for the appearance of symptoms or signs of diseases, but the investigator or investigators will be referred preventively for appropriate checks and treatment.

## 4. CARE PROTOCOLS FOR INVESTIGATORS

4.1 The AIG Authority must designate a staff member (or the investigator in charge) as “accident site safety and protection coordinator”, with responsibility for safety and protection aspects at the site and for the supervision of staff protection equipment and its use according to the potential hazards, depending on the characteristics of the event.

4.2 On returning from fieldwork, the investigator in charge or the designated person must draw up a list of the hazards to which the investigators have been exposed.

4.3 Examples of the hazards that are likely to be encountered in a field investigation include:

- a) **environmental hazards:** depend on the place (geographical and topographical), fatigue (travel and transport effects), insects/fauna, climate, security and political and social situation;
- b) **physical hazards:** fire, stored energy, explosives, low-pressure gases, military or previously military aircraft, fireworks, and collapsed structures;
- c) **biological hazards:** pathogens from human remains or cargo and local sanitary conditions;
- d) **material hazards:** exposure and contact with material and substances at the site, metals and oxides; and
- e) **psychological hazards:** stress and traumatic pressure due to exposure to the aircraft accident and interaction with the victims' families and persons participating in transport and related aviation activities, and the sight of human remains.

4.4 These hazards are listed as examples and other hazards can be present.

4.5 Emergencies and urgencies must be tended immediately by the most adequate means available at the accident site, and account must be taken of the possible need for procedures for evacuation to care facilities, for which coordination arrangements must be made immediately after the site and characteristics of the event become known. The medical staff will assess the risks that materialized in the field and the degree of investigators' exposure to them. The degree of exposure to various hazards present in field investigation and their effects on the investigator will determine the examinations and specialist care to which those affected will be directed.

4.6 If test results reveal evidence of clinical or psychological pathology, the relevant therapeutic measures will be initiated by the relevant specialists.

## 5. CONCLUSION

5.1 Aircraft accidents are potentially hazardous to investigators operating at the accident site during fieldwork. Protective gear such as clothing and equipment, and vaccines reduce to acceptable levels, but do not eliminate, the risks. It is therefore necessary to establish a procedure to identify hazards, examine exposed persons, diagnose and treat effectively and timeously any pathologies caused by fieldwork conducted by aircraft accident investigators.

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## APPENDIX

Unfortunately, there are no records or statistics on occupational diseases or accidents in aircraft accident investigation. Information abounds, however, on hazards present at the accident site.

**Larry Vance** (aircraft accident investigation consultant and former investigator at the Transportation Safety Board of Canada) has strong memories of details on fieldwork investigations.

Investigators frequently arrive at a site immediately after [first](#) responders. If the situation so warrants, they help to move bodies and to recover the victims' belongings.

**Vivien Lee** (psychologist based in Toronto) has experience of working with trauma and post-trauma stress disorder (PTSD). She has said that a particular frightful incident might not trigger anxiety in investigators, but relatively less dramatic incidents can destroy their resilience the most over time.

**Anthony Brickhouse** (aircraft accident investigator and director of the Aerospace Forensic Laboratory of the Embry-Riddle Aeronautical University at Daytona Beach, Florida) has said, in drawing attention to the anxiety that often develops from contact with victims' families, that anger is an emotion that comes with pain, that the victims' loved ones approach one to find out what has happened to their loved ones, and that blood and the dead are not pleasant and affect people.

Psychological trauma can obviously occur when job requirements include listening to voice recordings in the booth.

Contact with hazardous goods definitely pose a risk, as recorded in a Netherlands parliamentary report that established a "direct link" between the cargo of the El Al jumbo jet that crashed in 1992 on a residential area and the health problems that afflicted 800 people, most of whom lived in the vicinity of the stricken building and staff who had taken part in rescue operations and accident investigation.

The harmful substances at the El Al jumbo accident site included sulphur trioxide, carbon dioxide, asbestos, dioxins and unenriched uranium. The investigators warned that the 10,631 kg cargo payload was "hazardous" and comprised 190 litres of DMMP, a substance used to produce sarin gas.

Unfortunately, there are no world or regional statistics on occupational diseases or labour accidents caused by the professional activity of aircraft accident investigators, and so there is a dearth of hard data on this problem.

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