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**REPORT**

| From : | Council General Secretariat |
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| To : | Permanent Representatives Committee |
| Subject : | Common European Papers in view of ICAO's Accident Investigation and Prevention (AIG) Divisional meeting |

Delegations will find attached a draft Common European Paper on the above mentioned subject.

# Information Note

**Common European Papers in view of ICAO's Accident Investigation and Prevention (AIG) Divisional meeting**

From 13 until 18 October 2008 ICAO is organising its Aircraft Accident Investigation and Prevention (AIG) Divisional meeting.

The AIG Divisional meeting (the last of which was organised in 1999) is called for to discuss subjects in the fields of aircraft accident investigation and accident prevention. It gathers experts on accident investigation and prevention from around the world, and is the world's most important meeting on this subject.

The main operational task of the meeting is to discuss and propose amendments to Annex 13 – Aircraft Accident and Incident Investigation – of the Chicago Convention, with a view to further improve the scope of investigations in a cost-effective environment.

The theme of this year's meeting is "Developing investigations to enhance safety worldwide".

In order to prepare for the meeting, a group of European safety experts (from EU Member States, non-EU ECAC States, the Commission and the ECAC Secretariat) has worked on the development of a series of European contributions to the meeting. In order to make the European input to the meeting as effective as possible, it is proposed to submit them as "common European papers" – i.e. on behalf of the Community and of its Member States, the other ECAC States and, where appropriate, Eurocontrol.

The content of the draft papers (annexed to this Information Note), which are unavoidably often of a very technical nature, could be summarised as follows.

- Paper 1 – Regional cooperation (The European example)

  This paper explains how within Europe initiatives have been taken to facilitate cooperation and assistance between accident investigation authorities, in order to improve the accident investigation capacities of all authorities involved. These initiatives provide an example of regional cooperation to improve safety, which is worth being considered also by other regions.

- Paper 2 – Issuing Safety Recommendations

  This paper presents a comprehensive set of guidelines on the identification of recommendations, their drafting and their follow-up. It proposes to incorporate these guidelines into ICAO Doc 9756 (Manual of aircraft accident and incident investigation) and to complete the definition of a safety recommendation in Annex 13.

- Paper 3 – Sharing Safety Recommendations

  This paper calls for the creation of a common international database of safety recommendations. The aim is to ensure that safety recommendations formulated by one authority in the wake of an occurrence can be useful also to actors not directly involved in that particular occurrence.

- Paper 4 – The accident/incident reporting system

  This paper first summarizes the past and recent developments of ICAO's ADREP (Accident/incident Data Reporting) system and describes its relationship with the ECCAIRS (European Coordination Centre for Aviation Incident Reporting Systems) database system. It then underlines the need for a constant updating of both, and the advantage of ECCAIRS being used as a worldwide ADREP tool.

- Paper 5 – Refining the Annex 13 definition of aircraft damage

  This paper proposes a number of clarifications to the definition in Annex 13 of an aircraft accident. The aim is to ensure that each aircraft type's accident data set accurately represents the accidents which effectively occurred.

- Paper 6 – Non-disclosure of image recordings

  This paper identifies a number of omissions in Annex 13. To date, a number of records are protected from disclosure for other reasons than accident or incident investigation. Records made by Airborne Image Records (AIRs), the newest type of aviation data recorders, do not yet benefit from the protection. The paper proposes ways to put an end to this omission.

- Paper 7 – Just Culture – Definition and implementation of a Just Culture concept.

  This paper proposes a definition of "Just Culture" (as already proposed by Europe at the 36$^{th}$ ICAO Assembly), as well as actions to support the implementation of an adequate Just Culture concept in order to address the need for the protection of safety reporting and sharing of information, while respecting the principles of administration of justice and freedom of information.

International Civil Aviation
Organization

**WORKING PAPER**

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

## Montréal, 13 to 18 October 2008

**Agenda Item 2: Recent developments in investigation and prevention matters**
**3: Cooperation among States and ICAO in accident investigation and prevention workshops**
**6: Regional cooperation in investigations**

### REGIONAL COOPERATION
### (The European Example)

Working Paper presented by France, on behalf of the European Community and its Member States[1],
and by the other States Members of the European Civil Aviation Conference[2]

**SUMMARY**

Structured and comprehensive accident investigations are essential for aviation safety. Assistance provided by a safety investigation authority, with significant resources, to an organisation with more limited means is sometimes essential and can take many forms. Co-operation during an investigation is already provided for in Annex 13 and in the Directive 94/56. Nevertheless, it should be reinforced by structures supported by detailed written agreements (check-list and Code of Conducts) between Parties for long-term improvements. To complete and reinforce the existing structures, an assessment of needs to determine the scope of cooperation must be carried out. This will ensure yielding more synergies and avoid receiving excessive assistance with no long-term benefits. Gradually, European safety investigation authorities have each reinforced their structures and their efficiency in conducting safety investigations, thanks to a structured cooperative approach, which has resulted in the creation of the Council of European Aviation Safety Investigation Authorities (EASIA). The extensive experience in Europe can be worth being considered by other regions. Action by the meeting is in paragraph 3.

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[1]   Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom. All these 27 States are also Members of the ECAC.

[2]   Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Georgia, Iceland, Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

## 1. INTRODUCTION

1.1 Structured and comprehensive accident investigations are essential for aviation safety. Especially when dealing with major accidents, not only do they require trained investigators but also experts and facilities which a number of States cannot provide unless they receive assistance from other States.

1.2 First of all, co-operation during an investigation is provided for in Annex 13. Co-operation during an investigation occurs through States which have a specific safety interest in understanding the causes of the accident, i.e. the States of design, manufacture, registration and operation of the aircraft. However, this co-operation has to be set up before an accident occurs and if this has not the case, in some circumstances, the Investigator-in-charge may face difficulties such as limited resources. Though some companies can offer their services to conduct an investigation, States which do not have sufficiently developed structures to be able to handle a major investigation should first turn to the safety investigation authorities of other States.

1.3 In the European Union, the Directive 94/56/EC establishes a requirement for a functionally independent investigation organisation in each State (Paragraph 6.1). This authority will be given the means required to carry out its responsibilities (Paragraph 6.3). In order not to create an undue burden on some States, Article 6 was thus completed by two additional paragraphs 6.4 and 6.5 which allow them to request assistance from another Member State.

1.4 The Group of Experts on accident investigations (ACC)[3] have regularly discussed the situation and concluded these discussions by the endorsement of two documents, a check-list on investigations permitting Member States to assess their needs, and a Code of Conduct to organise co-operation between the signatory authorities. Members of the ECAC ACC Group of Experts have also been involved with the ICAO Cooperative development of Operational Safety and Continuing Airworthiness Programmes (COSCAP).

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[3]  The Group of Experts on Investigation (ACC) was established in 1991. It groups the Safety Investigation Authorities of the 42 ECAC Member States and benefits from the participation of observers representing the European Commission, EASA, the Interstate Aviation Committee from the Commonwealth of Independent States, the Unites States National Transportation Safety Board, the Transport Safety Board of Canada, aircraft manufacturers, IATA and IFALPA.

# 2. ASPECTS OF ASSISTANCE DURING AN INVESTIGATION

## 2.1 Two investigation phases

2.1.1 The investigation process has two main phases: the initial structuring, which lasts roughly a month from the event, then its development, which can take several years. The first phase must enable the situation to move from a crisis context to that of a working one. The second phase must take advantage of the work accomplished in making some contribution to safety. The assistance that an experienced organisation can provide depends on when it is first involved in the process.

2.1.2 The structuring phase of the investigation corresponds to the initial findings and to the gathering of facts and material elements for the investigation. Usually the readout of the flight recorders is performed at this time. The working groups are also defined during this phase, experience acquired from other investigations contributing to their organisation (nomination of team leaders, size of groups, etc.). During this period, it is also important to organise the timely dissemination of appropriate information and to control any possible drift (avoiding leaks or the spreading of dangerous assumptions, clearly identifying the framework for co-operation with the judicial authorities and insurers, etc.); the investigators must be able to carry out their work outside the media spotlight. An organisation that has experience in the handling of aviation disasters can provide its know-how in crisis management and communication.

2.1.3 The second phase is characterised by a decrease in media pressure and the long-term management of the investigative work. Experience then allows the investigators to establish the main orientations as well as to define and mobilise the resources required (human, technical and financial). During this period an investigation authority that has sent its representatives to assist may need to use their skills in other missions, therefore it is important to make early decisions on transitional measures.

**2.2 Notes on the Basics of Assistance**

2.2.1 Without prejudice to national laws, States might find it preferable to sign bilateral agreements. The agreements signed between investigative bodies can include clauses on training as well as clauses on assistance during investigations. However, such agreements, do not cover all of the operational aspects of an assistance mission. It is also important for both parties to define the limitations which apply in terms of responsibility or managing the foreign organisation's resources i.e. who decides on the level of assistance, its use and its duration.

2.2.2 By making an official request, the organisation in charge of the investigation legitimises the actions of the assisting body but it must also facilitate these actions. For example possible practical obstructions to assistance such as time taken for visas or delays in granting access to the site, must be identified and dealt with in advance. Access to the site and the analysis of the wreckage are often essential elements in understanding the accident but they require an action in the shortest possible time.

2.2.3 When the request for assistance requires the deployment of significant resources like a search for wreckage at sea, then how to finance the operation has to be addressed. Note: various solutions have been identified, such as insurance coverage (the State itself being insured or the airline's insurance taking into account special investigative operations) or emergency funds, but they should preserve the independence of the investigation.

**2.3 Increasing co-operation**

Three areas have been identified to enhance co-operation, namely:
1. Collaboration in the context of aviation accidents and incidents;
2. Training of investigators, welcoming observers, simulations relating to reactions to an event or the review of procedures;
3. Establishing and maintaining contacts between investigation authorities beyond the context of a crisis through exchange of views, feedback, etc.

## 2.4 Check-list on Investigations

First and foremost, it is useful for States to examine their needs and their capacity to fulfil their responsibilities when faced with a major civil aviation accident. The check-list (in Appendix), prepared by the ECAC/ACC Group, provides a comprehensive assessment by the participating States of their needs related to investigations and possible practical or legal obstacles. To complete and reinforce the existing structures, such an assessment must determine the scope of cooperation to ensure that it will yield more synergies and avoid having excessive assistance, which puts the receiver in a situation of dependency, with no long-term safety benefits.

## 2.5 Code of Conduct on Co-operation

A document, named "Code of Conduct on Co-Operation" (available on: www.ecac-ceac.org, "Publications and Documents") was endorsed at the beginning of 2006 by the ECAC Member States. This agreement, consistent with the relevant provisions of Annex 13 to the Chicago Convention and Directive 94/56/EC, provides for a convenient framework for co-operation, in order to develop meaningful cooperation bonds between ECAC Member States outside the context of a specific investigation.

## 2.6 Council of European Aviation Safety Investigation Authorities

European safety investigation authorities have each reinforced their structures and their efficiency in conducting safety investigations, thanks to a structured cooperative approach. This has resulted in the creation of the Council of European Aviation Safety Investigation Authorities (EASIA), which is composed of the Heads of the aviation safety investigation authorities of the EU Member States. The Council coordinates and harmonises the activity of safety investigation authorities without hampering their independence.

**3.    ACTION proposed**

3.1    The meeting is invited to:

a)    Urge Member States to conduct safety investigations when an accident occurs in its territory pursuant to Article 26 of the Chicago Convention, and if deficiencies have been identified, the deficient States are urged to look for regional support;

b)    Append the "checklist on assistance" to the Memorandum of Understanding proposed by ICAO's Secretariat;

c)    Encourage the study of the implications of the "Code of Conduct on Co-Operation" established by the ECAC State members and available on: www.ecac-ceac.org, "Publications and Documents".

**APPENDIX**

**CHECK-LIST ON ASSISTANCE**

**Assessment of the needs**

1.   Is there an independent organisation with the specific task of conducting investigations into aircraft accident and incident?

2.   Is there a comprehensive set of national laws to organise the technical investigation?

3.   Does the investigative body have its own independent means to undertake technical investigations?

4.   Is there appropriate documentation, basic facilities and adequate means of transportation for the conduct of an investigation?

5.   Is there a specific database to enter and consult information on aviation events? Is there a need for assistance in the management of this database?

6.   Do investigators have access to the appropriate protective equipment and clothing before going to the crash scene?

7.   Are there any experienced investigators who have participated in or led major accident investigations?

8.   Is the number of investigators adequate to deal with a major investigation?

9.   Has an appropriate communication procedure been established to notify and then deal with the many parties involved in a major aircraft accident?

10.

     a)   Do you have access to all the facilities required to read out recorders?

     b)   If not, is it possible to easily reach an agreement with a third party on such a task?

11.

     a)   Can you perform detail examination of parts or components of aircraft on your premises?

     b)   If not, is it possible to easily reach an agreement with a third party on such a task?

12.

     a)   Is there any appropriate facilities for any possible additional examinations and research, such as numerical computation, spectral analysis, etc.?

     b)   If not, is it possible to easily reach an agreement with a third party on such a task?

13.   Is it possible to carry out medical examination?

14.   Are there seasonal peak periods for the activity of the investigative body which correspond to some specific needs for assistance?

15.   Is there a need for assistance to investigate general aviation events, or only for commercial aviation?

16.   Is there a need for some assistance to investigate specific activities, such as helicopters?

17.   Is there a need for advice on the organisation of investigation?

18.   Is there a need for advice on the gathering of basic data?

19.    Is there a need for assistance with the protection of the crash scene?

20.    Are there any investigators experienced in taking various samples of different nature?

21.    Are there any investigators who have experience or training in conducting an interview?

22.    Has a list of contacts been established to find some specific information (on the aircraft, meteorology, airfield, etc.)?

23.    Are the investigators experienced enough in the conduct of working groups (human factors or interpretation of data for instance)?

24.    Do investigators have a broad knowledge to analyse any human factors aspects?

25.    Are some specific tools and methods available regarding the analysis of factual information and determination of causes?

26.    Is there a need for assistance in writing reports and safety recommendations?

27.    Has a communication policy been established?

**Possible Obstacles**

28.    Can the judicial investigation take precedence over and therefore hamper the conduct of the technical investigation?

29.    Can a foreign investigator access the scene, as well as any data relevant to the completion of the mission he is undertaking?

30. In case of an event occurring abroad which involves your organisation, is rapid transportation available or is it then necessary to call upon a third party to assist you?

31. According to your national laws, can you send aircraft parts or components abroad for examination?

32. Which organisation is responsible for communicating information relating to an accident?

33. Is the communication between the various possible parties organised, for example via a specific procedure?

34. Are there any specific local constraints in your State, such as geographical, that might hamper the success of the assistance provided by another State?

35. Has a procedure been established with operators to identify hazardous materials on the crash site?

36. Has a procedure been set up or contacts been made which would facilitate the arrival of assisting investigators?

37. Is it possible to translate documents for foreign investigators?

38. Is the function of a foreign technical expert recognised under national laws?

39. Are there any provisions under national laws relating to non-disclosure of confidential data?

**International Civil Aviation Organization**

**WORKING PAPER**

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

### Montréal, 13 to 18 October 2008

**Agenda Item 1:**     **Annex 13**
            **1.6.1: Safety recommendations**

### ISSUING SAFETY RECOMMENDATIONS

Working Paper presented by France, on behalf of the European Community and its Member States[4], and by the other States Members of the European Civil Aviation Conference[5]

| SUMMARY |
|---|
| This paper presents a comprehensive set of guidelines on the identification of recommendations, their drafting and their follow-up. It proposes to incorporate these guidelines into ICAO Doc 9756 and to complete the definition of a safety recommendation in Annex 13. Action by the meeting is in paragraph 4. |

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[4]    Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom. All these 27 States are also Members of the ECAC.

[5]    Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Georgia, Iceland, Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

## 4.    INTRODUCTION

During a workshop held in Athens on 30-31 May 2006, the European Group of Experts on accident investigations (ACC)[6] worked on several items in relation to the issuing of safety recommendations:

- the identification of recommendations (subject, content);
- the drafting of recommendations (form, recipient);
- the follow-up of recommendations.

The meeting reasserted the importance of safety recommendations as a central tool for the progress of aviation safety. The debates enabled a clarification of the doctrine on safety recommendations, which led to a comprehensive set of guidelines presented hereafter.

## 5.    GUIDELINES

### 5.1    Identification of Safety Recommendations

5.1.1 An interim safety recommendation should be issued as soon as a safety deficiency is identified and short term actions to address at least provisionally are required from the appropriate entities. This does not prevent the safety recommendation from being refined and completed during the investigation.

5.1.2 Investigation authorities take part in the safety feedback loop by disseminating information in relation to the findings raised in the course of their investigations. In most cases, an event occurs when operations are carried out in the context of a downgraded situation, be it known or unknown to the actors. The risk is increased as operations drift closer to the blurred line that stands between safe and dangerous operations. Then, the report issued maintains risk awareness by simultaneously reminding the community of the safety limits defined by the standard procedures, as well as by providing operators with concrete examples of the decision-making process and related issues.

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[6]    The Group of Experts on Investigation (ACC) was established in 1991. It groups the Safety Investigation Authorities of the 44 ECAC Member States and benefits from the participation of observers representing the European Commission, EASA, the Interstate Aviation Committee from the Commonwealth of Independent States, the Unites States National Transportation Safety Board, the Transport Safety Board of Canada, aircraft manufacturers, IATA and IFALPA.

5.1.3 In some remarkable cases, an investigation identifies a systemic failing within what the community believed to be the safety limit as delineated by regulations and standards. In such a case, a recommendation must be issued, so that the appropriate authority can take corrective actions.

5.1.4 Other accidents are related to an unforeseen combination of known factors or an unforeseen factor.

5.1.5 Normally, when an investigation concludes with (probable) causes, the report should include for each cause either the corrective actions that were taken or safety recommendations to prevent its recurrence.

5.1.6 A recommendation that operators or actors should follow procedures is useless because it would state something obvious. The safety recommendation is relevant for situations which are unforeseen by the system. Systematic non-compliances may lead to systemic changes.

5.1.7 It is worth noting that a recommendation is not enforceable per se. In order to influence the intended corrective action, the recommendation must be backed by strong evidence and a persuasive analysis. Also, having the regulators as formal addressees (directly or indirectly) reinforces this feedback system by enhancing the safety recommendation follow-up process, even when they are not the final addressees.

5.1.8 The recommended corrective actions sometimes require significant resources, such as in research and development, and the addressee might fear that the corrections prove, some years later, to have very little curative impact. Indeed, the investigation must point out the prevailing conditions that led to the event, and the recommendation should focus on the factors that could preclude these conditions. However, the circumstances of the event are characterized by intricate interactions between many "components", such as the crew, the aircraft, Air Traffic Management, airline management, all evolving over time. From this perspective, it is important to globally assess the possible consequences of a given recommended action. In fact, a safety recommendation should describe the safety problem and provide justification for safety actions while attention should be focused on the problem rather than the suggested solution.

5.1.9 During aircraft accident investigations, safety issues are often identified which did not contribute to the accident but, nevertheless, show safety deficiencies. These safety deficiencies should be addressed in the final report. Some States include safety recommendations not related to the causes of the accident in the "safety recommendations" section of the final report. Other States have developed means other than the final report to notify the appropriate authorities of safety deficiencies that are not related to the accident, although any actions taken are usually described in the final report (ICAO Doc 9756).

## 5.2 Drafting of recommendations

5.2.1 A safety recommendation should in no case create a presumption of blame or liability for an accident or incident. It has to be drafted accordingly.

5.2.2. The facts that led to the recommendation should be summarized as it must stand alone in a letter or in a dedicated database and as a reviewing entity may not be aware of it precise context.

5.2.3 The facts and the analysis that drive the recommendation must be backed by strong evidence and clear cause-and-effect relationships. They must be convincing.

5.2.4 In order to ensure that appropriate action is taken, each safety recommendation should include a specific addressee. This addressee should be the first entity expected to take actions to address the recommendation. This is usually the appropriate authority of the State which has responsibility for the matters with which the safety recommendation is concerned, but it may be other entities (e.g. manufacturers, operators, service providers).

5.2.5 Detailed explanations and pre-coordination with the addressee can help in drafting a well tailored and convincing text. Independence is not isolation.

5.2.6 A safety recommendation should identify what objective to reach, but leave scope for the authorities responsible for the matters in question to determine how to accomplish the objective of the recommendation. The safety investigation authority may lack the detailed information and experience required to evaluate the financial, operational and policy impacts on the addressee of specific and detailed recommendations.

5.2.7 A State conducting investigations of accidents or incidents must copy, when appropriate, any safety recommendations arising out of its investigations to the accident investigation authorities of other State(s) concerned and, when ICAO documents or activities are involved, to ICAO. (Annex 13, 6.9)

5.2.8 When final reports contain safety recommendations addressed to ICAO, because ICAO documents or activities are involved, these reports must be accompanied by a letter outlining the specific action proposed. (Annex 13)

5.2.9 There are different types of safety recommendations. Some are taken in the aftermath of an accident. Others stem from the argumentation in the report or are based on safety studies. There are also long term safety recommendations or safety recommendation of general interest. Their drafting may differ.

**5.3    Response and follow-up**

5.3.1 After the release of a safety recommendation, dialogue should be maintained in a similar manner to what had been done during its drafting phase.

5.3.2 Systematic, unambiguous and public answers to all the recommendations issued by an investigation authority are needed.

5.3.3 Those who could be adversely affected by a safety recommendation should be given the opportunity to comment on the draft recommendation before it is issued. The confidentiality of the process has to be ensured.

5.3.4 The safety investigation authority should implement procedures to monitor the progress of a safety recommendation that it has issued.

5.3.5 The addressee should inform the safety investigation authority of the preventive action taken or under consideration, or the reasons why no action will be taken.

5.3.6 The addressee of a safety recommendation should be required to determine within a suitable time period its position and/or the action(s) envisaged to manage any established safety risk.

5.3.7 Sharing recommendations (via electronic means) and experience on their effectiveness is helpful when facing complex occurrences and when considering issuing new recommendations (see WP on sharing safety recommendations).

5.3.8 The translation into English of all the recommendations issued and the setting up of a common database are two practical measures to make them easily accessible (see WP on sharing safety recommendations).

5.3.9 Finally, a State or an organization that was not an addressee of a safety recommendation but acts upon it as a result of sharing, should inform the originator of the safety recommendation of the preventive action taken or under consideration.

## 6. DEFINITION OF A SAFETY RECOMMENDATION

6.1.1 According to the Annex 13 definition, a safety recommendation is "a proposal of the accident investigation authority of the State conducting the investigation, based on information derived from the investigation, made with the intention of preventing accidents or incidents".

6.1.2 From the point of view of prevention, Annex 13 also acknowledges the possibility of issuing safety recommendations with reference to circumstances which are not strictly related to the conduct of an investigation on a specific accident or incident. In fact, Annex 13 recommendation 8.8 provides that "in addition to safety recommendations arising from accident and incident investigations, safety recommendations may result from diverse sources, including safety studies". For consistency, it is proposed to amend accordingly the definition of a safety recommendation.

## 7. ACTION proposed

7.1 The meeting is invited to:

a) review the guidelines for drafting and issuing safety recommendations presented in this working paper,

b) incorporate these guidelines into ICAO Doc 9756 according to the proposed appendix;

c) consider the amendment proposed in the appendix about the definition of a safety recommendation.

APPENDIX


**PROPOSED AMENDMENT TO ANNEX 13**


**CHAPTER 1. DEFINITIONS**


***Safety recommendation.*** A proposal of the accident investigation authority of the State conducting the investigation, based on information derived from the investigation, made with the intention of preventing accidents or incidents. In addition to safety recommendations arising from accident and incident investigations, safety recommendations may result from diverse sources, including safety studies". For consistency, it is proposed to amend accordingly the definition of a safety recommendation.


**PROPOSED AMENDMENT TO DOC 9756**


**ICAO Doc 9756 - Manual of aircraft accident and incident investigation**
**Part IV – Reporting (first edition – 2003)**
Chapter 1. – Appendix 1: Format and Content of the Final Report.


**4.     SAFETY RECOMMENDATIONS**


4.1.1 REGULATORY AND INVESTIGATION AUTHORITIES

4.1.2 The investigation authority is responsible for the investigation of all civil aircraft accidents and serious incidents occurring in or over its territory. However, evaluation of the findings of an accident investigation and the determination of the need for, and the initiation of, appropriate action to maintain and enhance safety is an important part of safety regulation, i.e. the responsibility of the regulatory authority. A good working relationship between the two authorities is thus essential, while this must in no way jeopardize the independence of the accident investigation.

4.1.3 Effective day to day liaison must be maintained between the regulatory and the investigation authorities, which is particularly useful in the immediate aftermath of any accident. However, the formal procedure by which the safety investigation authority identifies and conveys to the regulatory authority, or other entities, matters which it believes require action is by means of safety recommendations.

4.1.4 Recommendations can be made at any stage as the investigation progresses. Generally, they are part of the final report (Chapter 4 in the international model). The regulatory authority has formal procedures for the receipt and evaluation of such recommendations and initiation of necessary action. In its evaluation the civil aviation authority considers all the implications of the recommendation and action being proposed. The regulatory authority may act as a rulemaking authority or it may act as a safety oversight authority. When the regulatory authority is not the direct addressee of the recommendation, it just monitors the actions stemming from it.

4.2   SAFETY RECOMMENDATION DOCTRINE

4.1 4.2.1 In accordance with Annex 13, the sole objective of the investigation of an accident shall be the prevention of accidents and incidents. A safety recommendation should in no case create a presumption of blame or liability for an accident or incident. It has to be drafted accordingly. Therefore, the determination of appropriate safety recommendations is of utmost importance. The safety recommendations are actions which should prevent other accidents from similar causes or reduce the consequences of such accidents. In order to ensure that appropriate action is taken, each safety recommendation should include a specific addressee. This addressee should be the first entity expected to take actions to address the recommendation. This is usually the appropriate authority of the State which has responsibility for the matters with which the safety recommendation is concerned, but it may be other entities (e.g. manufacturers, operators, service providers).

4.2 4.2.2 Annex 13 requires that at any stage of the investigation of an accident, the accident investigation authority of the State conducting the investigation shall recommend to the appropriate authorities, including those of other States, any preventive action that is considered necessary to be taken promptly to enhance aviation safety. The interim safety recommendations made during the investigation may be presented in the safety recommendations part of the final report. Also, the preventive actions taken in response to the interim recommendations should be presented, as well as any other preventive actions taken by the appropriate authorities and the industry, such as changed operating procedures by the aircraft operator and the issuance of service bulletins by the manufacturer. Some States present the interim safety recommendations and describe the preventive actions taken in the factual information part, Section 1.18, in lieu of including this information in the safety recommendations part. Publishing the preventive actions taken in the Final Report has significant accident prevention value for those involved in similar operations.

4.2.3 Investigation authorities take part in the safety feedback loop by disseminating information in relation to the findings raised in the course of their investigations. In most cases, an event occurs when operations are carried out in the context of a downgraded situation, be it known or unknown to the actors. The risk is increased as operations drift closer to the blurred line that stands between safe and dangerous operations. Then, the report issued maintains risk awareness by simultaneously reminding the community of the safety limits defined by the standard procedures, as well as by providing operators with concrete examples of the decision-making process and related issues. In some remarkable cases, an investigation identifies a systemic failing within what the community believed to be the safety limit as delineated by regulations and standards. In such a case, a recommendation must be issued, so that the appropriate authority can take corrective actions. Other accidents are related to an unforeseen combination of known factors or an unforeseen factor. Normally, when an investigation concludes with (probable) causes, the report should include for each cause either the corrective actions that were taken or safety recommendations to prevent its recurrence. A recommendation that operators or actors should follow procedures is useless because it would state something obvious. The safety recommendation is relevant for situations which are unforeseen by the system. Systematic non-compliances may lead to systemic changes.

4.3 4.2.4 A safety recommendation should describe the safety problem and provide justification for safety actions. In order to influence the intended corrective action, the recommendation must be backed by strong evidence and a persuasive analysis. An example of a recommendation is given in Table 1-4. The investigation must point out the prevailing conditions that led to the event, and the recommendation should focus on the factors that could preclude these conditions. However, the circumstances of the event are characterized by intricate interactions between many "components", such as the crew, the aircraft, Air Traffic Management, airline management, all evolving over time. From this perspective, it is important to globally assess the possible consequences of a given recommended action. In fact, a safety recommendation should describe the safety problem and provide justification for safety actions while attention should be focused on the problem rather than the suggested solution. Consideration should be given to whether a safety recommendation should prescribe a specific solution to a problem or whether the recommendation should be flexible enough to allow the addressee latitude in determining how the objective of the recommendation can be achieved. A safety recommendation should identify what actions to take, but leave scope for the authorities responsible for the matters in question to determine how to accomplish the objective of the recommendation. This is particularly important if all the salient facts are not available and additional examination, research and testing appears necessary. In addition, the accident investigation authority may lack the detailed information and experience required to evaluate the financial, operational and policy impacts on the addressee of specific and detailed recommendations. Detailed explanations and pre-coordination with the addressee can help in drafting a well tailored and convincing text. Independence is not isolation.

4.4 4.2.5 During aircraft accident investigations, safety issues are often identified which did not contribute to the accident but, nevertheless, are safety deficiencies. These safety deficiencies should be addressed in the Final Report. Some States include safety recommendations not related to the causes of the accident in the safety recommendations part of the Final Report. Other States have developed means other than the Final Report to notify the appropriate authorities of safety deficiencies that are not related to the accident, although the action taken are usually described in the Final Report.

4.5 4.2.6 In summary, the safety recommendations should include a convincing presentation of the safety problem with the attendant safety risks deriving from it, as well as a recommended course of action for the responsible authority to take in order to eliminate the unsafe condition. The safety recommendations should identify what action is required, but should leave considerable scope for the implementing authority to determine how the problem will be resolved.

4.3   RESPONSE AND FOLLOW-UP

4.3.1 After the release of a safety recommendation, dialogue should be maintained in a similar manner to what had been done during its drafting phase.

4.3.2. Systematic, unambiguous and public answers to all the recommendations issued by an investigation authority are needed.

4.3.3. Those who could be adversely affected by a safety recommendation should be given the opportunity to comment on the draft recommendation before it is issued. The confidentiality of the process has to be ensured.

4.3.4. The safety investigation authority should implement procedures to monitor the progress of a safety recommendation that it has issued.

4.3.5. The addressee should inform the safety investigation authority of the preventive action taken or under consideration, or the reasons why no action will be taken.

4.3.6. The addressee of a safety recommendation should be required to determine within a suitable time period its position and/or the action(s) envisaged to manage any established safety risk.

4.3.7. Sharing recommendations (via electronic means) and experience on their effectiveness is helpful when facing complex occurrences and when considering issuing new recommendations. The translation into English of all the recommendations issued and the setting up of a common database are two practical measures to make them easily accessible.

4.3.8. Finally, a State or an organization that was not an addressee of a safety recommendation but acts upon it as a result of sharing, should inform the originator of the safety recommendation of the preventive action taken or under consideration.

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

## Montréal, 13 to 18 October 2008

**Agenda Item 1:**     **Annex 13**

        **1.6.1: Safety recommendations**


### SHARING SAFETY RECOMMENDATIONS

Working Paper presented by France, on behalf of the European Community and its Member States[7], and by the other States Members of the European Civil Aviation Conference[8]

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**SUMMARY**

This paper discusses how safety recommendations can be shared and used more effectively. It describes the various steps towards a common international safety recommendation database compatible with the ADREP/ECCAIRS reporting system.

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[7]     Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom. All these 27 States are also Members of the ECAC.

[8]     Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Georgia, Iceland, Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

## 8. INTRODUCTION

8.1    The 36<sup>th</sup> session of the International Civil Aviation Organization (ICAO) Assembly adopted the Working Paper[9] presented by Portugal, as a common European paper, which identified improved implementation of Safety Recommendations as an area in which States' Safety Programs could be better supported and enhanced. A large number of recommendations have a general impact on safety and could concern other States who are not directly addressed. Nowadays it is very difficult for a State to be aware of the whole range of safety recommendations issued by the various investigation authorities. Some States have also taken safety related actions that are not directly inspired by incident/accident report analysis. Finally some recommendations are addressed to ICAO or other international organizations. To avoid duplication of effort, it was recommended to make use of the work already done and to share mutual experiences. Electronic tools for safety recommendations such as IT portals and easily accessible databases have been envisioned.

8.2    In accordance with this vision, the European safety investigation authorities developed, in association with the Joint Research Centre (JRC), Eurocontrol and the European Aviation Safety Agency (EASA), a common database system to encode, follow up and share the information relating to safety recommendations on a wide scale. This working paper aims to introduce this database and its components.

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[9]    ICAO, 36<sup>th</sup> session of the Assembly held in Montreal, September 18-28, 2007; Item 28: Protection of certain accident and incident records and of safety data collection and processing systems in order to improve aviation safety, Working Paper A36-WP/224  TE/74 entitled "*Development of States' Safety Programmes*", presented by Portugal, on behalf of the European Community and its Member States, by the other Member States of the European Civil Aviation Conference (ECAC), and by Eurocontrol. Available at : http://www.icao.int/icao/en/assembl/a36/wp/wp224_en.pdf

## 9. DISCUSSION

### 9.1 Safety enhancements expected

9.1.1 The European working group that gathers together European investigation authorities concluded that recommendations raise two challenges: 1) It is easier to get a positive reaction on recommendations following a disaster than following a serious incident. 2) Recommendations issued by an investigation authority seldom lead to, or are even used in, ICAO work on safety issues.

9.1.2 The responsibility of correctly demonstrating the need for specific changes rests with the originator of the recommendation. It is generally better to quote other distinguished investigation authorities that have similar conclusions to give more leverage for a persuasive safety case. A common sharing of occurrence data and information on safety recommendations will be more efficient in convincing safety recommendation addressees that changes are needed.

9.1.3 The adoption of the ADREP 2000 taxonomy and its implementation in the ECCAIRS[10] system have since facilitated electronic exchanges of safety data. The rising worldwide utilization of ECCAIRS should help in increasing the ability to recognize emerging risks and increasing threats prior to their manifestation in an accident.

9.1.4 Sharing experience of the effectiveness of past safety recommendations and their related corrective actions (when carried out by the addressees) should be helpful when facing complex occurrences and considering the issue of new recommendations.

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[10] **ECCAIRS**: European Co-ordination Centre for Aviation Incident Reporting Systems. ECCAIRS release 4 is a database developed by the European Commission that supports the ADREP 2000 taxonomy. This comprehensive software can manage high number of occurrences, facilitates exchanges of occurrence data, export of data in many suitable formats, enables graphic representations, etc.

9.1.5 The quick dissemination of recommendations of general interest and a more effective use by the whole community of findings identified by an organisation represent another domain of action. A recent study on safety recommendations[11] of general interest for the community (i.e. not aimed at a specific operator) recommended that this dissemination task be handled at ICAO level, in a similar way to what has been undertaken for the Accident/incident Reporting (ADREP) system. ICAO answered positively, though the safety investigation community does not currently have any appropriate tools to carry out this task.

## 9.2. Description of the safety recommendation taxonomy

9.2.1 The investigation authorities of the European States expressed the need to enhance the sharing of safety recommendations. They also acknowledged their common view on the best practices for issuing and managing safety recommendations. In this context, they created a task force in November 2006 with a mandate to develop a specific taxonomy to store data related to safety recommendations. The task force grouped together members from AAIB, AAIU, BEA, BFU as well as EASA, Eurocontrol and JRC.

9.2.2 The main objectives of the task force were to review existing safety recommendation systems implemented at national level, agree on standardised definitions and provide a minimum list of attributes and values to be considered as a common framework. This taxonomy is hierarchically structured and includes categories that characterize the safety recommendation data and cover the main subjects of interest. In practice, this taxonomy should remain simple, easy to remember and easy to use, as it was designed initially at the level of details needed by users. Finally, this taxonomy was also designed to be modular, extendable and compatible with other worldwide recommendation systems (i.e. Australia, Canada, United States).

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[11] Bureau d'Enquêtes et d'Analyses pour la sécurité de l'Aviation Civile (2006). *Etude – Recommandations de sécurité à portée générale en transport public – bilan 1995-2005*. Le Bourget, France: Author. From http://www.bea.aero

9.2.3 The next phase consists of implementing this taxonomy into a data system that will feature a user-friendly interface. To ensure high quality data collection, the user-interface will have full customisation and will support rules during data entry. The three main entities, safety recommendations, responses and actions are the logical containers of attributes as defined by the structure of the taxonomy. Most of the values are stored in coding tables with drop-down lists thus limiting the use of free-text (except text and notes). The different organisations involved, originator, addressee, party concerned are clearly identified and this should facilitate a common sharing of information.

9.2.4 A unique identifier for the safety recommendations will be assigned by the originator and every recommendation can be detailed with its background. Various scenarios were taken into account. For example, a single recommendation is addressed to one appropriate Authority, but it can involve several parties and may have multiple responses, from various responders. One response may generate multiple actions.

9.2.5 The status, assessment and classification for all entities will be stored in the system, ensuring a clear distinction between the originator and the addressee point of views.

9.2.6 In addition to text fields, recommended to be in English, the encoding sections should help to cope with the various languages and provide powerful means of data search. Similar safety recommendations may be issued by different originators but address one common topic. The system should help to identify previous replies given to a similar topic or assess the impact of a given recommendation. Such a classification of the information should facilitate follow-up of recommendations when issued as well as the identification of factors or safety issues emphasized by previous recommendations.

**9.3   Nearing a common database**

9.3.1 All these elements were brought to the attention of the JRC, ICAO and EASA during the October 2006 ECCAIRS Steering Committee where the ECCAIRS 4.3 release was also announced. This future release will introduce a new architecture for supporting different domains other than just aviation for example.

9.3.2 The recommendation tool will be developed on the future ECCAIRS common framework architecture. The ECCAIRS occurrence reporting system is already widely used at European and international level. It is logical to complement this infrastructure, making sure the process simplifies and enhances the safety data flow without creating a complicated and burdensome system. A safety recommendation will be commonly linked to one or more occurrences reported through ECCAIRS. However, it should also be considered as an independent system since safety recommendations can be collected, integrated and disseminated with or without the link to occurrences (see appendix). All existing utilities and functionalities for data viewing, editing, querying, and export become available at no extra cost. Historical data from existing systems will be made compatible thanks to a conversion process.

9.3.3 The adoption of a common taxonomy and its implementation in a safety recommendation database system should facilitate electronic exchanges. At this stage, different scenarios can be proposed: data file exchanges and/or a centralized database. The first option is easy to implement since the different systems can be installed and managed at national level. Therefore different means of communication (FTP, Emails, etc.) can be used to share data. The second option would facilitate definitive data sharing if the central database is managed by a single organisation. The two scenarios are not mutually exclusive and can be considered together.

9.3.4 It should be stressed that the recommendation tool can be broken down into two tiers. The first tier consists of a common "target" taxonomy, which can be implemented by any organisation or IT vendor. The second tier is about to become a reality thanks to the next ECCAIRS common architecture framework (4.3). This gives more choices to authorities therefore the full recommendation database system represents the ultimate solution for the best use of each other's safety work.

9.3.5 The sharing and wide dissemination of data that are related to the recent safety strategies embraced by authorities have required a certain level of mutual confidence between the many entities involved. In return, there were also requirements for an efficient communication process as well as for a common view of the applicable procedures and acceptable working methods. The preliminary work confirmed that such a step forward was possible in Europe. This is in line with the recent development of Safety Management Programmes.

**10.    ACTION proposed**

10.1  The meeting is invited to:

a)    approve the utility of implementing a common tool to share and manage safety recommendations;

b)    note that sharing safety recommendation fulfils the recommended practice laid out in Annex 13, paragraph 8.9;

c)    recommend ICAO to adopt a common taxonomy for safety recommendations as part of overall ADREP taxonomy, by using the preliminary work undertaken in Europe (see also note in Annex 13, paragraph 8.9).

# APPENDIX

## SAFETY RECOMMENDATIONS AND ECCAIRS TOOLS

ECCAIRS 4.2 environment implements ICAO's current ADREP2000 taxonomy (data-definition). This taxonomy incorporates a limited section of recommendation types (ICAO ADREP chapters).

The ECCAIRS 4.3 release will introduce a new architecture for supporting different domains (broader than aviation). It will allow for all existing ECCAIRS tools to support a safety recommendation database on the sole condition that an appropriate taxonomy be available. All utilities and functionalities for data entry and data export will work easily with this new database.

The safety recommendations database should be considered as a stand alone database which can be linked to ECCAIRS (if available) in an n:n relation:

   • one recommendation can be linked to various occurrences
   • one occurrence can be linked to various recommendations

**Two separate systems linked by a n:n relation**
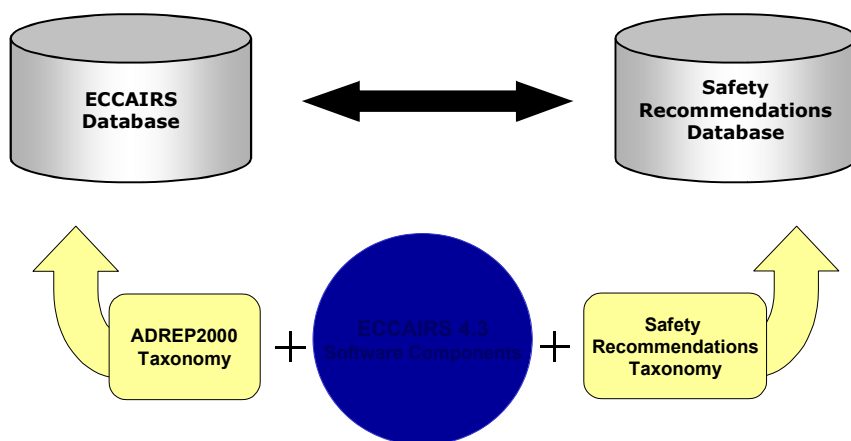
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# ACCIDENT INVESTIGATION AND PREVENTION (AIG) DIVISIONAL MEETING (2008)

## Montréal, 13 to 18 October 2008

**Agenda Item 4: Management of safety data and representation**

### The Accident/incident Reporting System

Working Paper presented by France, on behalf of the European Community and its Member States[12], and by the other States Members of the European Civil Aviation Conference[13], and by EUROCONTROL

**SUMMARY**

A common taxonomy is an indispensable tool to define common safety issues and complementary ways to globally enhance aviation safety. The ADREP system has evolved since AIG 1974 by gradually incorporating the know-how of worldwide safety investigations along the years. This paper summarizes the past and recent developments of the ADREP taxonomy and elaborates on the ECCAIRS system, which provides a common tool for worldwide users to share accident and incident data through the use of compatible repositories. This common tool facilitates electronic data exchange and integration among different organizations from different countries. It facilitates the analysis of safety data originating from a multitude of sources. In order to stay relevant it must constantly adapt to changes in the industry.

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[12]    Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom. All these 27 States are also Members of the ECAC.

[13]    Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Georgia, Iceland, Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

## 11. ADREP TAXONOMY

**ADREP History**

11.1 ICAO started publishing safety statistics in 1951 from a data bank. It was then called ADREP, which stood for « Accident Data Reporting Experts Panel ».

11.2 The ADREP (Accident/incident Data Reporting) system, as it is known today, originated after AIG 1974 (Accident Investigation Group Divisional Meeting). ICAO implemented the ADREP system to centralize safety data on the circumstances and causes of accidents and incidents, as determined by national authorities, and to disseminate these safety data to Contracting States for prevention purposes. It also included the conclusions and the safety recommendation themes, in order to disseminate them and build safety indicators. Decisions taken during AIG 74 led to ADREP 1976, which became a computer-generated information database derived from the system already being used by the NTSB. It adopted its coding structure but added a field for the narrative. In addition, it provided for translation of the coded information into English, French and Spanish. When ICAO started operating the system, it had back-coded approximately 5000 occurrences dating from the early seventies, coming from the coding of old reports or the conversion of NTSB data and from the "initial notifications of accident" that the Organisation had received earlier. The reporting requirements to the ADREP reporting system were introduced in the fourth edition of Annex 13 in April 1976.

**From ADREP 1976 to ADREP 1987**

11.3  An update of the ADREP system was requested for AIG 1979. An ADREP study group focused on the events and causal factors. The number of two events (one triggering and the other consequential) was deemed too limiting. The system was therefore revised to allow the coding of up to five events. The factor scheme which contained a list of fixed elements only was abandoned in favour of a tree structure of descriptive and explanatory causal factors. Based on the UK MORS keywords, the "technical factors" were aligned with the ATA100 structure. The upgrade of the ADREP taxonomy developed by the Study Group was implemented in 1987. It reflected the state-of-the-art knowledge by investigation authorities, a no-blame approach to descriptive factors and an initial, limited set of Human Factors.

**From ADREP 1987 to ADREP 2000**

11.4  AIG 1992 requested another evolution of the ADREP taxonomy and started the ADREP 2000 study group. The ADREP 1987 taxonomy was refined with a more advanced and comprehensive structure. In its latest version (ADREP 2000), the SHELL[14] model was integrated at the level of the explanatory factors to describe the aviation system. This multilayered structure gives flexibility in analyzing system failures. Indeed, the SHELL items are also presented in tree lists and each can be applied on persons or organizations in order to respectively cover active and systemic failings. In addition, with the increasing importance of incident reporting, new event types were introduced to permit their proper description. During the upgrade to ADREP 2000, the ATM part of the taxonomy inherited the European developments of a project Harmonisation of European Incident and Accident Database Initiative (HEIDI) jointly performed by ICAO, EUROCONTROL and the European Commission Joint Research Centre (JRC).

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[14]  SHELL: Software (procedures, symbology, etc.), Hardware (machine, ergonomics, etc.), Environment and Liveware (human). The SHELL model (Edwards, 1972 modified by Hawkins 1987) describes a system as the interaction of humans with four elements: Software, Hardware, Environment and Liveware. Each element of the model includes a list of items based on a tree description.

**ADREP 2000 and ECCAIRS 4 (1 January 2004)**

11.5. The JRC (located in Ispra, Italy) developed a database system, the European Co-ordination Centre for Aviation Incident Reporting Systems (ECCAIRS[15]) that supports the ICAO ADREP taxonomies. It was initially based on ADREP 1987 and then, it implemented the ADREP 2000 taxonomy with ECCAIRS release 4. On 1 January 2004, ADREP 2000 became operational when ICAO and other investigation authorities started using ECCAIRS 4 to manage occurrence reporting and exchange safety data.

**ADREP 2000 rev 2007 and ECCAIRS 4.2.7**

11.6 Since 2004, the taxonomy has remained fairly unchanged to facilitate the adoption of ECCAIRS 4 by other bodies. The ADREP user-group was formed to deal with the change proposals related to taxonomy. These proposals were coming mainly from the ECCAIRS user community, which goes beyond Europe (see note on ECCAIRS and ICAO). A growing number of authorities have been using ECCAIRS as their reporting tool. They specifically expressed their needs to better record incident data. In ECCAIRS release 4.2.7, the ADREP taxonomy was revised (rev 2007) to improve incident coding within the limits of the taxonomy structure. This meant that new values were added to record for example specific occurrences related to ATM or airport operations. Adding new data fields requires changing the data structure, which is foreseen for the next ECCAIRS version. Further, a more rigorous approach to the classification of event types was introduced.

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[15]   Details on ECCAIRS can be found at: http://eccairs-www.jrc.it/Start.asp

**ECCAIRS Release 4.3: ADREP 2000 revision 2008**

11.7 A revision of the ADREP 2000 taxonomy is to be introduced in the next ECCAIRS version (Release 4.3 expected for October 2008). The planned extension will make the taxonomy more appropriate and sufficiently flexible to report all types of occurrences, as requested for example by the Directive EC/2003/42. The dictionary will receive in particular new fields for ground operations, an entire new section dedicated to maintenance and attributes completing the dangerous goods section. Moreover, the bird strike section will be included, in order to comply with ICAO guidelines. Another important update will be the adoption of the three-level aircraft make-model-series standard, based on the material developed by the CAST ICAO Common Taxonomy Team[16] (CICTT).

## 12. ICAO & ECCAIRS

12.1 The International Civil Aviation Organization (ICAO) has been advocating the implementation of Safety Management Systems (SMS) in its Member States. A key component of the SMS framework consists of an occurrence database. The European Commission makes ECCAIRS available free of charge to States outside the European Union. Since ECCAIRS is fully compatible with ICAO's ADREP taxonomy, ICAO has been operating the ECCAIRS software since January 2004. To facilitate electronic data exchange, ICAO requested from the European Commission copies of the ECCAIRS installation kit to send to its Regional Offices. This thus provides a database to some of ICAO's Member States that do not have an ADREP compatible reporting system. Implementing ECCAIRS at an international level reinforces the ADREP data flow as required by Annex 13 and at a national level constitutes the first step of the State's Safety Management Programme. It also increases the cooperation and exchange of information among the States in the interest of aviation safety.

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[16] CICTT is charged with developing common taxonomies and definitions for aviation accident and incident reporting systems. Most of these high level "target" taxonomies have been adopted by the ADREP user group (e.g. occurrences categories, phases of flight). Details on CICTT can be found at: http://www.intlaviationstandards.org/

12.2 Because of its widespread use, the system must be adapted to the changes in the aviation system. The aviation world develops fast. New aircraft and operators appear, other vanish. The state-of-the art of accident investigation evolves. New areas of interest appear for incident reporting. Flight data analysis contributes to events reported. There is thus a constant need to review the reporting systems to reflect the advances made elsewhere. At present, there is no established mechanism for this work. While some efforts have been made within Europe to coordinate the development, there is no matching activity at the level of ICAO. Because of the speed of development, an annual update of the ADREP taxonomy is required.

## 13.   ACTION proposed

13.1 The ADREP taxonomy represents the experience gained from many years of investigations throughout the world. It continues to be amended through the experience gained in its use and the appearance of new aircraft, operators and location names. A major revision is about to be introduced in order to better integrate all types of occurrences. The ADREP taxonomy is included in its entirety in the ECCAIRS dictionary.

13.2  The meeting is invited to:

a)    urge States to adopt the ADREP taxonomy as the sole aviation occurrence taxonomy,

b)    encourage the dissemination of ECCAIRS in the ICAO contracting States which do not have their own ADREP compatible occurrence database,

c)    encourage the facilitation of data-exchanges between the existing ADREP compatible databases,

d)    recommend establishing a means to facilitate a periodical revision of the ADREP taxonomy,

e)    consider the amendment proposed in the Appendix.

**APPENDIX**

**PROPOSED AMENDMENT TO ANNEX 13**

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## CHAPTER 7.   ADREP REPORTING

*Note 1.— Attachment B provides a notification and reporting checklist.*

*Note 2.— The provisions of this chapter may require two separate reports for any one accident or incident. They are:*

*Preliminary Report*
*Accident/Incident Data Report*

~~*Note 3.   Guidance for preparing the Preliminary Report and the Accident/Incident Data Report is given in the* Accident/Incident Reporting Manual *(Doc 9156).*~~
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## CHAPTER 8.   ACCIDENT PREVENTION MEASURES

. . .
***Database systems***

8.4   **Recommendation.—** *A State should establish an accident and incident database to facilitate the effective analysis of information obtained, including that from its incident reporting systems.*

8.5   **Recommendation.—** *The database systems should use standardized formats to facilitate data exchange.*

*Note 1.— Guidance material related to the specification for such databases will be provided by ICAO upon request from States.*

*Note 2.— States are encouraged to foster regional arrangements, as appropriate, when implementing 8.4.*

*Note 3.— States are encouraged to use the ECCAIRS system for accident/incident reporting as well as for collecting, storing, and disseminating relevant safety information.*

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

### Montréal, 13 to 18 October 2008

| Agenda Item | 1.1: | Proposed changes to Chapter 1 in Annex 13 |
|---|---|---|

### REFINING THE ANNEX 13 DEFINITION OF AIRCRAFT DAMAGE

Working Paper presented by France, on behalf of the European Community and its Member States[17], and by the other States Members of the European Civil Aviation Conference[18]

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**SUMMARY**

This paper is mainly based on propositions from the Safety Information Study Group (SISG) to help refining the Annex 13 definition of aircraft damage for the purpose of classifying an occurrence as an aircraft accident.

Action by the meeting is in paragraph 3

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[17]   Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom. All these 27 States are also Members of the ECAC.

[18]   Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Georgia, Iceland, Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

14. **INTRODUCTION**

14.1 The ICAO Safety Indicators Study Group (SISG) uses the Annex 13 definition of an aircraft accident to determine which occurrences to include in its accident data set. However, the Annex 13 definition was developed many years ago and its application to the damage that can be sustained by modern turbine powered aircraft can be difficult, sometimes resulting in an inconsistent application.

15. **DISCUSSION**

15.1 The part of the definition of an aircraft accident that relates to personnel injury is well defined in Annex 13 and causes little difficulty in its application. However, problems are often encountered in deciding whether the damage sustained by an aircraft is sufficient to make the occurrence an accident in accordance with the Annex 13 definition, or whether the occurrence was an incident.

15.2 With only a few accidents involving large aircraft each year, it is important to apply the Annex definition consistently in order to ensure that the accident data set accurately represents the accidents to such aircraft. The Annex 13 definition is unlikely to be updated for some years. Therefore, to provide consistency in applying the Annex definition, there is a need for additional guidance to that already contained in the Annex, on what damage constitutes an aircraft accident.

15.3 Accordingly, the following guidelines have been developed to amplify the damage considered sufficient for an occurrence to be classified as an accident. Some examples of 'borderline' cases of aircraft damage are also included in the usage notes. While it is impossible to address all possible aircraft damage scenarios, the following guidance should assist in those cases where there is doubt as to whether the aircraft damage is of sufficient magnitude to be considered an aircraft accident. These guidelines may require 'fine tuning' in the light of their application in practice.

## 16. ACTION proposed

16.1 The meeting is invited to

    a)    consider the amendment proposed in the Appendix; and, if for statistical uniformity the amendment is rejected;

    b)

    c)    consider the development of an attachment based on the usage notes proposed in the Appendix.

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**APPENDIX**

**PROPOSED AMENDMENT TO ANNEX 13**

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In the following paragraphs, the part of the Annex 13 definition of an aircraft accident that relates to aircraft damage is shown in **bold.**  The additional guidance material is shown in normal font.

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**b)** **The aircraft sustains damage or structural failure which:**

- **adversely affects the structural strength, performance or flight characteristics of the aircraft** (i.e. the aircraft is rendered unsafe for a further flight [1]) **and**

- **would normally require major repair** (taking more than 48 man hours of work[2]) **or replacement of the affected part.**

Notes: 1)  The aircraft may have landed safely, but cannot be safely dispatched on a further sector without repair.

2)  If the aircraft can be safely dispatched after minor repairs, (i.e. less than 48 man-hours of work) e.g. patching a tail strike, and subsequently undergoes more extensive work to effect a permanent repair, then the occurrence would not be classified as an accident. Likewise if the aircraft can be dispatched under the MEL (Minimum Equipment List) or CDL (Configuration Deviation List) with the affected component removed or missing, then the repair would not be considered as a major repair and consequently the occurrence would not be considered an accident.

The Annex provides the following exceptions;

**Except for:**

- **Engine failure or damage, when the damage is limited to** a single **engine, its cowlings or accessories.** Notwithstanding the foregoing, an uncontained engine failure where high-energy components, e.g. fan blades or turbine chunks are ejected through the engine cowling, is counted as an accident. **or**

- **Damage limited to propellers,** tail or main rotor blades**, wingtips, antennas,** probes or vanes

- **tires, brakes,** wheels and superficial damage to the undercarriage

- **fairings,** panels, undercarriage doors, damaged windscreens, **small dents or puncture holes in the aircraft skin .**

- minor hail or bird strike damage (including holes in the radome) not covered by b) above.

**USAGE NOTES**

- If an engine separates from an aircraft, the event is categorised as an accident even if damage is confined to the engine.

- A loss of engine cowls (fan or core), or reverser components, which, does not result in further damage to the aircraft is not considered an accident.

- Occurrences where compressor or turbine blades, or other engine internal components are ejected through the engine tail pipe are not considered an accident.

- A collapsed, or missing radome, is categorised as an accident

- Missing flap, slat and other lift augmenting devices, winglets, etc, that are permitted for dispatch under the MEL or CDL are not considered to be an accident

-        Retraction of an undercarriage leg, or wheels up landing, resulting in skin abrasion only. Same considerations as for a tail strike, (see note 2 above)

-        If the damage is such that the aircraft depressurises, or cannot be pressurised, the occurrence <u>is categorised as an accident.</u>

-        The removal of components for inspection following an occurrence, such as the precautionary removal of an undercarriage leg following a low speed runway excursion, while involving considerable work, <u>is not considered an accident</u> unless significant damage is found.

-        Occurrences that involve an emergency evacuation <u>are not counted as an accident</u> unless someone receives serious injuries, or the aircraft has otherwise sustained sufficient damage.

-        Occurrences that involve damage to the tail or main rotor blades while the rotorcraft is on the ground <u>are not categorised as an accident</u>.

Note: The cost of repairs, or estimated loss, such as provided by Airclaims may provide an indication of the damage sustained, but should not be used as the sole guide as to whether the damage is sufficient to count the occurrence as an accident. Likewise, an aircraft may be considered a 'hull loss' because it is uneconomic to repair, rather than it having incurred sufficient damage to be classified as an accident.

**International Civil Aviation Organization**

**WORKING PAPER**

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

### Montréal, 13 to 18 October 2008

| Agenda Item | 1.7: | Protection of safety information |
| --- | --- | --- |

### NON-DISCLOSURE OF IMAGE RECORDINGS

Working Paper presented by France, on behalf of the European Community and its Member States[19], and by the other States Members of the European Civil Aviation Conference[20]

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**SUMMARY**

This paper identifies omissions in Annex 13, Ninth Edition, Amendment 11, with regard to the non-disclosure of recordings made by Airborne Image Recorders (AIRs).

Action by the meeting is in paragraph 3.

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## 17.  INTRODUCTION

17.1  Annex 13, Ninth Edition, Amendment 11 contains Standards and Recommended Practices for the non-disclosure of certain types of information, detailed in paragraph 5.12, but currently affords no such protection for image recordings made by AIRs.

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[19]  Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom. All these 27 States are also Members of the ECAC.

[20]  Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Georgia, Iceland, Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

18.  **DISCUSSION**

18.1 Accident investigators have recognised for many years that recorded 'images' of the cockpit environment were needed to augment existing data and audio recordings. However, it has only recently become economically realistic to record cockpit images in a crash-protected recording medium. Therefore, supplementing existing data and audio recorder information with an image recording of the cockpit environment is the next logical step in the evolution of flight recorder systems.

18.2 The combination of audio, data and cockpit image recordings will provide air safety investigators with the necessary information to better define the facts, conditions and circumstances of an occurrence, and to broaden the scope of the vitally important human factor aspects of investigations. Additionally, image recordings can capture other cockpit information that would otherwise be impractical or impossible to record.

18.3 A number of accident investigation authorities have made recommendations to introduce image recording to supplement the information currently provided by the Flight Data Recorder (FDR) and Cockpit Voice Recorder (CVR). The technology to implement such systems has been demonstrated and a minimum operational performance specification (Eurocae ED-112) for such recordings was issued in March 2003.

18.4 Eurocae ED-112 identifies a number of classes of AIR for use in different applications. A Class A recorder has been identified to capture data supplemental to conventional flight recorders; for example, to capture cockpit Human Factors, movements etc. A Class B recorder would satisfy CNS/ATM Message Display recording. A Class C recorder could be used to record flight data where it is prohibitively expensive to record on an FDR. A Class D recorder was identified to capture Head Up Displays and a Class E recorder could be used to capture other camera images presented to the crew such as cargo or cabin views.

18.5　Image recorders, in particular the Class C AIR may prove an attractive alternative, in terms of installation costs, to the installation of a Flight Data Recorder system on small aircraft. To that end, the ICAO Flight Recorder Panel (FLIRECP) has tabled proposed amendments to Annex 6 which would allow the use of image recorders instead of an FDR under some circumstances.

18.6　However, although the FLIRECP, at its last meeting held in April 2007, recognised the benefits of introducing image recording, it expressed concern that the introduction of this technology would meet with strong opposition if its use could not be limited solely for accident investigation purposes. In particular it recognised the attractiveness of the Class A recordings by the media and other organisations desiring to use such information for purposes other than accident investigation. This contrasts with the Class C recorder, its field of view only encompassing displays and / or instrumentation, which would attract considerably less attention but would provide accident investigators with significant additional information. It is worth noting that the Class C recorder met favour with pilots in that it was designed to record exactly what was displayed to flight crew rather than what the aircraft systems thought was displayed, as recorded on an FDR.

18.7　Annex 13, paragraph 5.12 sets out the Standards and Recommended Practices for States with regard to non-disclosure of certain types of records. CVRs and their transcripts are identified as a relevant record in paragraph 5.12 d) and the same, or higher, level of protection would seem to be appropriate for all classes of image recordings and their transcripts. A number of States have already taken the lead and introduced protection for such recordings into their national legislation.

18.8　It is hoped that ICAO, as the organisation which sets Standards and Recommended Practices, through the amendment of Annex 13, paragraph 5.12 to protect this recording technology, provides guidance to Contracting States in this matter and hence brings a degree of uniformity to the changes in national legislature required.

**19. ACTION Proposed**

19.1 The meeting is invited to:

a) consider the amendment proposed in the Appendix in order to afford image recordings and their transcripts, in whole or in part, the same, or higher level of protection from disclosure as cockpit voice recorders;

b)

c) consider methods of protection of these recordings from disclosure in those States which are unable or unwilling to afford such protection in their national legislation.

**APPENDIX**

**PROPOSED AMENDMENT TO ANNEX 13**

. . .

**CHAPTER 5. INVESTIGATION**

**RESPONSIBILITY FOR INSTITUTING AND
CONDUCTING THE INVESTIGATION**

. . .

*Non-disclosure of records*

5.12    The State conducting the investigation of an accident or incident shall not make the following records available for purposes other than accident or incident investigation, unless the appropriate authority for the administration of justice in that State determines that their disclosure outweighs the adverse domestic and international impact such action may have on that or any future investigations:

a)    all statements taken from persons by the investigation authorities in the course of their investigation;

b)    all communications between persons having been involved in the operation of the aircraft;

c)    medical or private information regarding persons involved in the accident or incident;

d)    cockpit voice recordings and transcripts from such recordings; and

e)    recordings and transcriptions of recordings from air traffic control units; and

f)    airborne image recordings and any part or transcripts from such recordings;

g)    opinions expressed in the analysis of information, including flight recorder information.

**WORKING PAPER**

## ACCIDENT INVESTIGATION AND PREVENTION (AIG) DIVISIONAL MEETING

### Montréal, 13-18 October 2008

**Agenda Subject: 1.2: Chapter 5 of Annex 13**

**Agenda Subject 1.7: Attachment E to Annex 13**

**Agenda Subject 1.2.1: Investigation of accidents and serious incidents**

### "JUST CULTURE" (JC) DEFINITION AND IMPLEMENTATION OF A JC CONCEPT

Working Paper presented by France, on behalf of the European Community and its Member States[21], by the other States Members of the European Civil Aviation Conference[22], and by EUROCONTROL

**Summary**

Transparency and sharing of information are recognized as cornerstones of aviation safety. "Just Culture" should create an environment in which the reporting and sharing of information is encouraged and facilitated.

In this context, this paper proposes a "Just Culture" definition and actions to support the implementation of an adequate Just Culture concept in order to address the need for the protection of safety reporting and sharing of information while respecting the principles of administration of justice and freedom of information.

A Just Culture is not just another safety related initiative. It is an essential enabler to proceed towards enhancing safety, taking into account the interests of all parties concerned. The establishment of a Just Culture requires the involvement of the representatives of the Aviation and ATM safety domain as well as those of the Judiciary of States concerned—whatever the practical, legal and societal difficulties along the way. Insights and studies from decades of safety and human factors research confirm this. Progress on safety has become synonymous with taking a systems perspective and moving beyond blame in a balanced manner.

Action by the meeting is in paragraph 5.

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[21]    Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom. All these 27 States are also Members of the ECAC.

[22]    Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Georgia, Iceland, Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

## 1. INTRODUCTION

The improvement of aviation safety is based, to a large extent, on the knowledge derived from a systematic accident/incident data collection and analysis allowing the whole industry to adapt by modifying its equipment and procedures. The good functioning of this system is built on the existence of systematic records traceability, active participation and reporting from all the aviation actors involved in safety-critical areas and sharing of safety information. In Europe there are well-developed accident prevention processes including mandatory incident reporting systems and independent accident investigation.

The chain of events leading to an accident or incident is often constituted of individual incidents or occurrences that, when combined, provoke a catastrophic situation. In some cases, during the investigation activities, it appears that some incidents perceived as contributing to an accident have been occurring for years but not known to the widest aviation community and without adequate global actions taken. It is therefore very important to gain as much knowledge as possible on all incidents. For this reason, Annex 13 and aviation regulation provide for mandatory incident reporting.

However, these processes do not collect information on all occurrences. It is thus necessary to supplement them by establishing voluntary incident reporting systems to give people the opportunity to provide information on incidents that they perceive to be an actual or potential hazard but which do not fall under the mandatory category.

In recent years there has been a growing concern on the part of aviation professionals[23] about the interpretation of flight safety by the general public and media, and especially by the judicial system. The major concern is associated with the increasing emphasis on the potential for prosecution or public blame.

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[23] E.g. Air Navigation Service Providers (ANSPs), Safety Regulators, manufacturers, Aviation Safety Investigation Authorities, representative bodies of aviation personnel such as IFATCA (International Federation of Air Traffic Controller's Associations) and IFALPA (International Federation of Air Line Pilot's Associations).

## 2. IMPACT OF THE JUDICIARY AND MEDIA ON AVIATION SAFETY

Earlier this year, a Court sentenced two air traffic controllers to suspended prison terms for their involvement in a near miss incident. One of the causes was Call Sign Confusion, a well-known problem whereby aircraft receive and act on a clearance intended for another aircraft. This is a systemic issue which can lead to a human error. The problem can be eliminated by ensuring that call signs are designed in such a way so they are sufficiently different. This is an example of a case where the judiciary addressed a human behaviour resulting from a systemic issue. This could ultimately be detrimental to safety, sending the wrong messages to those reporting incidents.

The impact of the media is also important to consider when developing a Just Culture. Media seeking newsworthy items and working under time constraints to be the first to issue news items are likely to report in great detail, at an early stage and with often unsubstantiated conclusions, alleged breaches of flight safety.

The accident or incident investigation process enables safety experts to collect a large quantity of factual information from the accident itself but also from manufacturers, operators, service providers and regulators to trace back the entire chain of events which contributed to the occurrence. Whether directly involved or not, individuals from all these entities will be asked to give details or explain their actions and behaviours. They might not cooperate fully if their testimony may be used against them in court. Equally this could make it difficult for safety investigators to get valuable information, particularly when judicial proceedings are launched at the same time as the safety investigation.

Legislators, and especially aviation regulators, have a keen interest in accessing facts in a timely manner when vital information is at stake.

Timely and adequate information on issues of public interest, including aviation safety, is made available in some countries on the basis of legislation e.g. freedom of information act. A balanced approach to use such information is essential, as biased reports are likely to jeopardise the reporting mechanisms developed and implemented in the aviation system.

Every person or entity, including the aviation community, is subject to the administration of justice at national or, where applicable, at international level.

The question of judicial action must be seen as a crucial part of a balance between fundamental societal interests and sovereign functions:

i. The right of the highest possible safety (through incident and accident investigation and reporting) and

ii. The right of independent and impartial administration of justice and freedom of public information through appropriate constitutional and legislative provisions.

These two functions serve well-recognised public interests and have generally been seen as fundamental constitutional rights.

## 3. DEVELOPMENT OF AN ADEQUATE "JUST CULTURE" CONCEPT

As shown above, excessive publicity of incident information or prosecution of reporters/authors of incidents has lead to a situation where companies may tend to discourage people from reporting incidents and where individuals may be tempted not to report when they believe it will not otherwise be known. This situation may drastically affect the level of reporting in mandatory schemes and could ruin voluntary reporting schemes.

An environment that enables the judicial authorities and the media to better understand and assess the nature and purpose of aviation safety initiatives, and in particular that of Just Culture in the Aviation and ATM industry, will result in a safer aviation environment in the longer term.

With respect to European aviation safety legislation, a number of mandatory provisions have already been introduced to protect confidentiality and avoid blame and liability but these are still seen as too limited by aviation safety professionals. For this reason, as a starting point towards better understanding and implementing of Just Culture principles, European States and Organisations have suggested a common interpretation of "Just Culture", as follows:

*"A culture in which front line operators or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated",*

EUROCONTROL, the European Organisation for the Safety of Air Navigation and its stakeholders issued Guidance Material on Just Culture and initiated a number of steps to improve the understanding of the concept and the promotion of it with justice and media. The legal aspects of Just Culture are being addressed, inter alia through the establishment of a dialogue with judicial authorities and through ad-hoc workshops. Relevant European Directives are also under review and could provide a more elaborated support to the concept of Just Culture. It is however considered that more needs to be achieved on a global basis.

4.    **THE WAY FORWARD**

Assembly Resolution 35/17 "Protecting information from safety data collection and processing system in order to improve the safety" states that "*the Just Culture should create an environment in which the reporting and sharing of information is encouraged and facilitated*".

A "Just Culture" is not just another safety-related initiative. It is an essential enabler to proceed towards enhancing safety. The need to do so should be recognised by all parties involved, regardless of any practical and cultural difficulties along the way.

Two insights, emanating from decades of safety and human factors research, confirm this. Progress on safety has become synonymous with:

-   **Taking a systems perspective:** Accidents and incidents are not caused by failures of individuals, but emerge from the conflux or alignment of multiple contributory system factors, each necessary and only jointly sufficient. The source of occurrences is the system, not its component parts. – and

-   **Moving beyond blame:** Blame focuses on the **supposed** defects of individual operators and denies the importance of systemic contributions. In addition, blame has all kinds of negative side effects. It typically leads to defensive posturing, misleading information, protectionism, polarisation, and mute reporting systems.

Different States and Organisations have so far tried, to a greater or lesser extent, to address the problems at the heart of a "Just Culture" in different ways. While they may differ considerably in outward appearance, all these efforts actually centre around three main questions:

i.    Who in the State, as well as within the companies, gets to "draw the line" between acceptable and unacceptable behaviour from a criminal law point of view?

ii.   What and where should the role of domain expertise be in judging whether behaviour is acceptable or unacceptable?

iii.  How protected against judicial interference are safety data (either the safety data from incidents inside of the company or the safety data that come from formal accident investigations)?

The more a State has made clear agreed arrangements about the possible interference by the judiciary and the rules and protocols agreed for such interference, the more predictable the judicial but also psychological consequences of an occurrence for those directly involved are likely to be. That is, operational people will suffer less anxiety and uncertainty about what may happen in the wake of an occurrence, as arrangements have been agreed upon and are in place.

The greater the involvement of the domain expertise in support of drawing the line jointly with the judicial system, the less operational people are likely to be exposed to unfair or inappropriate judicial proceedings.

The better the safety data is protected from judicial interference or where policies and protocols exist between the representatives of aviation and the judiciary, the more likely operational people in a State would feel free to report. The protection of safety data is connected, of course, to how the State solves questions i. and ii above.

With regards to the media, an environment that enables the media to comprehend the nature and purpose of a Just Culture in the aviation industry will result in more accurate, balanced reporting. This will keep the general public, the Government and the judiciary better informed about aviation safety, improving the image of aviation safety in the spirit of the "Just Culture" principles, thus making aviation even safer in the long term.

EUROCONTROL has developed guidelines for aviation professionals on how to address the media and public needs for information. Aviation professionals and journalists have little knowledge and/or understanding for each other's profession, however they both have the public interests in mind. The guidelines instruct aviation professionals on what to do and how to talk to the media, in order to give accurate information but preserve the confidentiality when this is due.

## 5. ACTION PROPOSED

WHEREAS there is an urgent need to establish an effective balance between the requirements for improving aviation safety and the requirements at national and international level for the administration of Justice, the AIG is invited:

- To support and adopt for inclusion in Annex 13 the description of "Just Culture" as "*a culture in which front line operators or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated.*"

WHEREAS the development and establishment of a "Just Culture" will greatly facilitate the reporting and sharing of safety data as an essential contribution to enhancing safety in international aviation, the AIG is invited:

- To urge States to adopt and implement the Just Culture principles contained in the above description in para 5.1.

WHEREAS through expressing its concerns regarding the possible consequences of increasing involvement of judicial authorities further to aviation accidents and incidents, the AIG is invited:

- To review Attachment E to Annex 13 in order to provide more precise legal guidelines for the implementation of a "Just Culture", in particular with respect to the role of the judicial authorities, with the aim of achieving a proper balance between the objectives of the implementation of effective safety reporting systems and those of the administration of Justice;

WHEREAS the influence of media can be potentially detrimental to aviation safety, while recognising the need for the travelling public to be properly informed about aviation safety performance, the AIG is invited:

- To review Attachment E to Annex 13 or to create a new Attachment in order to provide guidelines to the aviation professionals on how to interact with the media, in order to achieve the right balance between providing relevant and accurate information to the public while preserving the needed confidentiality of individuals in the interest of aviation safety.

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