



## ASSEMBLY - 35TH SESSION

### TECHNICAL COMMISSION

- Agenda Item 24:** ICAO Global Aviation Safety Plan (GASP)  
**Agenda Item 24.1:** Protection of sources and free flow of safety information

### PROTECTION OF INFORMATION FROM SAFETY DATA COLLECTION SYSTEMS

#### SUMMARY

This paper outlines the importance of, and need for, information from safety data collection systems in order to improve aviation safety. The paper also summarizes the situation in international civil aviation regarding the protection of such information. The appendix contains a draft resolution on the subject of the protection of mandatory and voluntary information from safety data collection systems, for consideration by the Assembly.

#### REFERENCES

Doc 9828, *Report of the Eleventh Air Navigation Conference (2003)*  
Annex 6  
Annex 13  
Doc 9790, *Assembly Resolutions in Force* (as of 5 October 2001)

## 1. INTRODUCTION

1.1 As part of its consideration of agenda item 2.1, safety management systems and programmes, the Eleventh Air Navigation Conference (ANConf/11), Montreal, 22 September to 3 October 2003, discussed the protection of sources of safety information and made, inter alia, Recommendation 2/4 - The protection of sources of safety information. The recommendation directs ICAO to “*develop guidelines which will provide support to States in adopting adequate measures of national law, for the purpose of protecting the sources and free flow of safety information, while taking into account the public interest in the proper administration of justice.*”

1.2 On 10 March 2004, the Council considered the recommendations of ANConf/11. The Council noted Recommendation 2/4 on the subject of “The protection of sources of safety information”, and requested the Secretary General to take appropriate action. The draft Assembly Resolution attached to this Assembly working paper is a response to the Council’s decision to act upon Recommendation 2/4 of ANConf/11.

## 2. BACKGROUND

2.1 International civil aviation’s outstanding safety record is primarily due to three key factors: a) the dedication to safety by aviation organizations and their staff; b) a continuous learning process, based on the development and free exchange of safety information; and c) the ability to turn errors into preventive actions. It has long been recognized that endeavours aimed at improving contemporary civil aviation safety must build upon empirical data. There are several sources of such data available to civil aviation, each necessary but not sufficient to provide such empirical data. In combination, however, they provide the basis for a solid understanding of the strengths and weaknesses of aviation operations.

2.2 For years, information from accident and incident investigations formed the backbone of activities aimed at improvements in equipment design, maintenance procedures, flight crew training, air traffic control systems, airport design and functions, weather support services, and other safety-critical aspects of the air transportation system. In recent years, the availability of technological means has led to an accelerated development of safety data collection, processing and exchange systems (hereafter referred to as safety data collection systems). Safety data collection systems have allowed the development of a significant volume of safety information, which has added to safety information from accident and incident investigations. Safety data collection systems form the pillars of a safety management system (SMS), and generate information that is used to implement corrective safety actions and proactive long-term strategies.

2.3 A key difference between the information from accident and incident investigations and the information from safety data collection systems concerns the Human Factors data each captures. Accidents and serious incidents are rare occurrences, that often reflect the linking of circumstantial factors. As a result, it is often difficult to uncover unsafe operational practices in time to deal with them appropriately, using information from the investigation of accidents and serious incidents exclusively. Furthermore, because accidents and incidents are failures of the aviation system, Human Factors data accessed through accident and incident investigations inevitably reflects unsuccessful system and human performance (i.e., *unmitigated* operational errors).

2.4 On the other hand, any typical aviation operation - just like any other human activity - involves frequent and minor but, most important, inconsequential errors (selecting wrong frequencies, dialling wrong altitudes, acknowledging incorrect read-backs, mishandling switches and levers, and so forth). Some errors are due to natural limitations in human performance, others are fostered by systemic shortcomings; most are a combination of both. The fact nevertheless remains that these frequent and minor errors contain the same damaging potential as rare and major errors captured through accident and incident investigations. However, such damaging potential is neutralized because: a) operational personnel employ successful coping strategies; and b) specific system defences fulfill their role and act as a containment net.

Safety data collection systems capture successful coping strategies and well-performing systems defences. Simply put, safety data collection systems largely capture what works well in aviation operations.

2.5 From a systems safety perspective, in order to develop countermeasures to operational errors, it is essential to learn about successful strategies and defences, through information from safety data collection systems, to complement the lessons from failures accessed through information provided by accident and incident investigations. Safety data collection systems can be grouped into three broad categories, depending on the method employed to collect the safety data: a) self-reporting; b) electronic capture; or c) direct observation. Safety data collection systems are, with few exceptions, voluntary and, without exception, confidential and non-punitive. Furthermore, because they constantly collect data on a daily basis, safety data collection systems generate a great volume of continuous information to support safety actions and long-term strategies.

2.6 Industry attempts to collect safety data through self-reporting safety data collections systems include, among others, examples such as the Aviation Safety Action Programme (ASAP). Flight data analysis (FDA) programmes such as the Flight Operations Quality Assurance (FOQA) Programme is an example of a safety data collection system based on electronic capture of safety data. Lastly, the Line Operations Safety Audit (LOSA) is one example of safety data collection systems that capture safety data through direct observations of flight crews by expert, especially trained observers. All these systems permit recording successful system and human performance (i.e., *mitigated* operational errors), and they lead to more complete conclusions to develop countermeasures to human error.

### 3. THE INTERNATIONAL SITUATION

3.1 Safety data collection systems have especially allowed civil aviation to gain a deeper understanding of operational errors: why they happen, what can be done to minimize their occurrence, and how to contain their negative impact on safety. It remains undisputed that the majority of operational errors in aviation are inadvertent: well-trained, well-intentioned people make errors while maintaining, operating, or controlling well-designed equipment. For those rare situations where errors are a result of willful acts, substance abuse, sabotage or violations, enforcement systems in place ensure that the chain of accountability remains unbroken. This dual approach, combining enhanced understanding of inadvertent operational errors with appropriate enforcement of rules in cases of misconduct, has served civil aviation well in terms of safety, while ensuring that there are no harbours for violators.

3.2 Recent years, however, have shown a trend in civil aviation when dealing with operational errors leading to occurrences, in that information from accident and incident records and safety data collection systems has been used for disciplinary and enforcement purposes, as well as admitted as evidence in judicial proceedings. These proceedings have also resulted in criminal charges being brought against individuals involved in such occurrences. Bringing criminal charges into aviation occurrences resulting from inadvertent operational errors may hinder the development and free exchange of safety information which is essential to improve aviation safety, with a potential adverse effect on it.

3.3 A number of initiatives within the international civil aviation community have attempted to address the protection of sources of safety information, including information from accident and incident investigations and safety data collection systems, from inappropriate use. This includes misuse of information by media. However, given the sensitivity of the question at hand, a framework that provides unity of purpose

and consistency among civil aviation's efforts is essential. Efforts to ensure the protection of safety information must strike a very delicate balance of interests between the need to protect safety information, and the responsibility to administer justice. A cautious approach should be taken in this regard, since proposals incompatible with the proper administration of justice might be unacceptable to judicial systems in Contracting States.

3.4 Within ICAO, a number of provisions address the protection of certain sources of safety information. These include:

- a) Assembly Resolution A33-17; *Non-disclosure of certain accident and incident records*, inter alia, urges States to examine and if necessary adjust their laws, regulations and policies to protect certain accident and incident records in compliance with paragraph 5.12 of Annex 13, and instructs ICAO to develop guidance materials to support States in this respect;
- b) Assembly Resolution A33-16, *ICAO Global Aviation Safety Plan (GASP)*, inter alia, instructs ICAO to participate in efforts by States to improve safety information reporting and exchange, with due consideration to protection of privileged information; urges States to examine and, if necessary, adjust relevant legislation; and instructs ICAO to provide guidance materials to support States in this respect;
- c) Assembly Resolution A31-10, *Improving accident prevention in civil aviation*, inter alia, urges States to implement voluntary and non-punitive reporting systems;
- d) Annex 13 — *Aircraft Accident and Incident Investigation*, paragraph 5.12, establishes that statements from persons, communications, medical and private information, cockpit voice recorders (CVR) and transcripts, and opinions expressed in analysis of information shall not be made available for purposes other than for accident/incident investigation, unless the appropriate authority for the administration of justice in the State determines that their disclosure outweighs the adverse domestic and international impact such action may have on that or any future investigations (see also paragraph 5.12.1 and Note);
- e) Annex 13, paragraph 8.3, establishes that voluntary incident reporting systems shall be non-punitive and sources of information shall be protected; and
- f) Annex 6 — *Operation of Aircraft*, paragraph 3.2.4, establishes that flight data analysis programmes shall be non-punitive and shall contain safeguards to protect source(s) of data.

3.5 The provisions in Assembly Resolution A33-17 and Annex 13, paragraph 5.12, address the protection of information from certain accident and incident records listed in Annex 13, paragraph 5.12, in particular, the provisions related to the cockpit voice recorder and their transcripts. The provisions in Assembly Resolution A33-16, Assembly Resolution A31-10, Annex 13, paragraph 8.3 and Annex 6, paragraph 3.2.4, address self-reporting and electronic safety data collection systems. ICAO provisions do not address direct observation safety data collection systems.

3.6 ICAO provisions protecting certain accident and incident records are explicit regarding their admissibility in judicial proceedings. The same explicit protection is not evident for information from safety data collection systems. In the absence of explicit wording such as in Annex 13, 5.12, information from safety data collection systems is protected by agreements within airlines. The legal protection afforded to the information from safety data collection systems by such agreements, within different judicial systems in Contracting States, is difficult to ascertain.

3.7 Few States have promulgated national legislation protecting the information from self-reporting safety and electronic safety data collection systems. In some States, promulgating national legislation protecting the information from self-reporting safety and electronic safety data collection systems may not be possible due to incompatibilities with their judicial systems. The protection of the information from direct observation safety data collection systems is not presently addressed by legislation in any State.

3.8 It can therefore be concluded that the fact that current ICAO provisions do not sufficiently address the protection of the information from safety data collection systems may result in inadequate protection being provided to such information in the national legislation of many States. The proposed draft Assembly Resolution therefore aims at addressing this matter, by strengthening the protection of the information from safety data collection systems other than accidents and incidents records.

#### 4. GLOBAL AVIATION SAFETY PLAN (GASP)

4.1 Action by ICAO on the protection of information from safety data collection systems in order to improve aviation safety is consistent with Resolving Clause 10 (urges all Contracting States to examine and, if necessary adjust their laws, regulations and policies to achieve the proper balance among the various elements of accident prevention efforts [e.g, regulation, enforcement, training, and incentives to encourage voluntary reporting] and to encourage increased voluntary reporting of events that could affect aviation safety, and instructs ICAO to develop appropriate policies and guidance in this respect) of Assembly Resolution A33-16.

4.2 The proposed Assembly Resolution on the protection of information from safety data collection systems is furthermore consistent with the 3rd Fundamental (Promoting safety awareness worldwide by facilitating the effective sharing and use of aviation safety data and information) of the Global Aviation Safety Plan (GASP). The following three tasks under Element 3.4 (Review and improve existing safety database systems to facilitate the dissemination of safety related information) of the GASP are particularly relevant:

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- c) Develop appropriate means to ensure the non-punitive nature of voluntary incident reporting systems;
- d) Develop appropriate means to ensure non-disclosure of confidential safety information;

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- f) Update Annex provisions aimed at facilitating the collection and dissemination of safety-related information;

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## 5. CONCLUSIONS

5.1 It can be concluded that, while existing ICAO provisions regarding protection of certain accident and incident records have served international civil aviation, developments dictate the need to generate a framework that encompasses the protection of all relevant safety information systems. Such a framework should be the product of international consensus, and compatible with the cautious approach expressed in paragraph 3.3 above. The framework should furthermore acknowledge that most discussions on matters related to the protection of safety information have so far taken place at the technical level, with limited participation of the legal community; and that existing international law as well as national law and regulations in many States may not be fully adequate to deal effectively with the issue.

5.2 In developing the proposed framework, a multi-disciplinary approach, which includes broad professional expertise and geographical representation, is essential. The approach should include a review of national legislations in various parts of the world, and an assessment of their compliance with ICAO-related provisions, so that the framework reflects different cultures and legal systems. The framework should furthermore build upon, and broaden as required, existing ICAO provisions on the protection of safety information. It should, inter alia, address the following conceptual issues:

- a) no professional group or workforce should be above the law;
- b) a balance needs to be struck between the protection of safety information, with a view to enhancing the safety of civil aviation, and the public interest in the availability of evidence in judicial proceedings;
- c) evidence other than that obtained from sources of safety information should be primarily used in judicial proceedings related to actions by operational personnel; and
- d) the protection of safety information is not intended to provide operational personnel with undue protection from prosecution, but to preserve the safety information.

## 6. FINANCIAL IMPACT<sup>1</sup>

6.1 The proposed work set out in the draft Assembly resolution would be undertaken within the resources of Programmes 2.11, Personnel Licensing and Training, and Major Programme IV, Legal. The resources under Programme 2.11 are sufficient to support its part of the work while the resources under Major Programme IV are sufficient to the extent that it only encompasses the review of material developed

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<sup>1</sup> This information is presented only to indicate the estimated financial impact of the proposed action. The funds allocated to this proposed action will depend upon the final form of the Programme Budget of the Organization for 2005-2006-2007 approved by the Assembly.

by internal bodies. The development of any substantive legal study could not be carried out under the resources provided in the draft Programme Budget 2005-2007.

7. **ACTION BY THE ASSEMBLY**

7.1 The Assembly is invited to:

- a) note the information provided in this working paper; and
  - b) adopt the Resolution presented in the Appendix on the protection of information from safety data collection systems in order to improve aviation safety.
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**APPENDIX**

**DRAFT ASSEMBLY RESOLUTION**

**A35-xx: Protecting information from safety data collection systems in order to improve aviation safety**

*Whereas* the primary objective of the Organization continues to be that of ensuring the safety of international civil aviation worldwide;

*Recognizing* the importance of the free communication of safety information amongst the stakeholders of the aviation system;

*Recognizing* that the protection of safety information from inappropriate use is essential to ensure the continued availability of all relevant safety information, to enable proper and timely preventive actions to be taken;

*Concerned* by a trend for safety information to be used for disciplinary and enforcement actions, and to be admitted as evidence in judicial proceedings;

*Mindful* that the use of safety information for other than safety-related purposes may inhibit the provision of such information, with an adverse effect on aviation safety;

*Considering* that a balance needs to be struck between the need for the protection of safety information and the need for the proper administration of justice;

*Recognizing* that technological advances have made possible new safety data collection, processing and exchange systems, resulting in multiple sources of safety information that are essential in order to improve aviation safety;

*Noting* that existing international laws, as well as national laws and regulations in many States may not adequately address the protection of safety information;

*The Assembly:*

1. *Instructs* the Council to develop appropriate legal guidance that will assist States to enact national laws and regulations to effectively protect information from safety data collection systems, both mandatory and voluntary, while allowing for the proper administration of justice in the State;

2. *Urges* all Contacting States to examine their existing legislation and adjust as necessary, or enact laws and regulations to effectively protect information from safety data collection systems based, to the extent possible, on the legal guidance developed by ICAO; and

3. *Instructs* the Council to provide a progress report to the next ordinary Session of the Assembly on this matter.