



A38-WP/390  
TE/171  
28/9/13

**ASSEMBLY — 38TH SESSION**  
**TECHNICAL COMMISSION**

**DRAFT TEXT FOR THE REPORT**  
**ON**  
**AGENDA ITEM 31**

The attached material on Agenda Item 31 is submitted for consideration by the Technical Commission.

---

**Agenda Item 31: Aviation Safety — Emerging Issues**

31.1 The Commission reviewed A38-WP/65, presented by the Council, providing an overview of safety reporting publications issued by ICAO. Since 2011, ICAO has published annual reports of trends and issues related to the Global Aviation Safety Plan (GASP) objectives. These publications support a proactive approach to safety through periodic reporting relevant indicators and trends. As a result, ICAO has identified three high-risk accident categories including: loss of control — inflight; controlled flight into terrain (CFIT) and accidents occurring in the runway environment. Beginning in 2014, all regional aviation safety groups (RASGs) are expected to publish annual reports, providing summaries of safety trends in each region.

31.2 The Commission noted the ICAO safety reporting publications, such as the Global Aviation Safety Plan (GASP), the ICAO Safety Report, and the State of Global Aviation Safety, which assist in the definition of priorities for each triennium. It also agreed that the Council should urge Member States to provide the RASGs with information and resources necessary to publish regional safety reports, which will increase the value of the global analyses.

31.3 The Commission reviewed A38-WP/36, presented by the Council, which contained a progress report on the development of alternatives to halogenated hydrocarbon (halon) for use in civil aviation aircraft fire protection systems. The paper included a proposed Assembly resolution, to supersede Resolution A37-9 — Halon replacement, on continuing progress towards development of viable halon replacements in civil aviation fire extinguishing systems. The resolution also invited States to determine and monitor their halon reserves and quality of halon, as well as inform ICAO regularly of their halon reserves.

31.4 A38-WP/140 was presented by the United States supporting the draft resolution as presented in A38-WP/36 and informing the Commission on the creation of a halon replacement Aviation Rulemaking Committee (ARC).

31.5 A38-WP/238, presented by International Coordinating Council of Aerospace Industries Associations (ICCAIA), emphasized the importance of further development and the establishment of a realistic target date for suitable halon replacement agents for the cargo compartment fire extinguishing suppression system. ICCAIA agreed to coordinate a collaborative approach, involving all stakeholders, to develop an industry recommendation for a halon replacement timeframe for cargo compartment in time for the Council to report at the next Assembly in 2016, as set forth in the A38-WP/36 draft Resolution as amended by A38-WP/238.

31.6 In light of the discussion, the Commission agreed to submit, for adoption by the Plenary, the following resolution:

**Resolution 31/1: Halon replacement**

*Recognizing* the importance of aircraft fire extinguishing systems to the safety of flight;

*Recognizing* that halogenated hydrocarbons (halon) have been the main fire extinguishing agent used in civil aircraft fire extinguishing systems for over fifty years;

*Whereas* halons are no longer being produced by international agreement because their release contributes to ozone-depletion and climate change;

*Recognizing* that more needs to be done because the available halon supplies are decreasing and unsure and that the environmental community continues to be concerned that halon alternatives have not been developed for all fire extinguishing systems in civil aircraft;

*Recognizing* that the Minimum Performance Standard for each application of halon has been developed already by the International Aircraft Systems Fire Protection Working Group with participation by industry and regulatory authorities;

*Recognizing* that there are stringent aircraft-specific requirements for each application of halon that must be met before a replacement can be implemented;

*Recognizing* that the aircraft manufacturing industry has established mechanisms for stakeholder engagement in the development of common solutions for halon replacement in engine/auxiliary power-unit (APU) fire suppression applications and a realistic timeframe for such replacement in cargo compartment applications;

*Recognizing* that the production is prohibited by international agreement, halon is now exclusively obtained from recovery, reclaiming and recycling. Therefore, recycling of halon gas needs to be rigorously controlled to prevent the possibility of contaminated halon being supplied to the civil aviation industry; and

*Recognizing* that any strategy must depend on alternatives that do not pose an unacceptable environmental or health risk as compared to the halons they are replacing;

*The Assembly:*

1. *Urges* States and their aviation industries to intensify development and implementation of acceptable halon alternatives for fire extinguishing and suppression systems in cargo compartments and engine/auxiliary power units, and to continue work towards improving halon alternatives for hand-held fire extinguishers;
2. *Urges* States to determine and monitor their halon reserve and quality of halon;
3. *Encourages* ICAO to continue collaboration with the International Aircraft Systems Fire Protection Working Group and the United Nations Environment Programme's Ozone Secretariat through its Technology and Economic Assessment Panel's Halons Technical Options Committee on the topic of halon alternatives for civil aviation;
4. *Encourages* States to collaborate with the Industry Consortium for engine/APU applications and the Cargo Compartment Halon Replacement Working Group established by the International Coordinating Council of Aerospace Industries Associations;
5. *Urges* States to inform ICAO regularly of their halon reserves and directs the Secretary General to report the results to the Council.;
6. *Directs* that the Council shall report to the next ordinary session of the Assembly on a timeframe for the replacement of halon in cargo compartment fire suppression systems; and

7. *Declares* that this resolution supersedes Resolution A37-9.

31.7 The Commission reviewed A38-WP/37, presented by the Council, on the implementation status of English language proficiency requirements. Given the adoption of the Standards in March 2003 and the sustained efforts and significant progress States have made to implement English language proficiency requirements, the Commission agreed that States should be encouraged to make use of the implementation tools developed by ICAO for language proficiency requirements and that the flexibility clause relating to States not compliant with the provisions by 5 March 2011 was no longer necessary.

31.8 In light of the discussion, the Commission agreed to submit, for adoption by the Plenary, the following resolution:

**Resolution 31/2: Proficiency in the English language used for radiotelephony communications**

*Whereas* to prevent accidents, ICAO introduced language provisions to ensure that air traffic personnel and pilots are proficient in conducting and comprehending radiotelephony communications in the English language, including requirements that the English language shall be available on request at all stations on the ground serving designated airports and routes used by international air services;

*Recognizing* that the language provisions reinforce the requirement to use ICAO standardized phraseology in all situations for which it has been specified;

*Recognizing* that Contracting States have made substantial efforts to comply with the language proficiency requirements;

*Recognizing* that some Contracting States encounter considerable difficulties in implementing the language proficiency requirements including the establishment of language training and testing capabilities;

*Whereas* in accordance with Article 38 of the Convention any Contracting State which finds it impracticable to comply in all respects with any international standard or procedure is obliged to give immediate notification to ICAO;

*Whereas* in accordance with Article 39 b) of the Convention any person holding a licence not satisfying in full the conditions laid down in the international standard relating to the class of licence or certificate held, shall have endorsed on or attached to the licence all the particulars in which this person does not satisfy such conditions; and

*Whereas* pursuant to Article 40 of the Convention no personnel having certificates or licences so endorsed shall participate in international navigation, except with the permission of the State or States whose territory is entered:

*The Assembly:*

1. *Urges* Contracting States to use ICAO standardized phraseology in all situations for which it has been specified;
2. *Directs* the Council to continue to support Contracting States in their implementation of the language proficiency requirements;

3. *Encourages* Contracting States to make use of the ICAO Aviation English Language Test Service (AELTS) to verify language testing instruments;
4. *Urges* Contracting States to make use of the ICAO Language Proficiency Requirements – Rated Speech Samples training aid;
5. *Urges* Contracting States to assist each other in their implementation of the language proficiency requirements; and
6. *Declares* that this resolution supersedes Resolution A37-10.

31.9 The Commission reviewed A38-WP/69 presented by Iran (Islamic Republic of) and was informed of recent incidents in which aircraft ACAS II (TCAS II) systems issued false resolution advisories due to the transmission of incorrect altitude by other aircraft and of the significance of this since the collision avoidance systems must act as a reliable safety net. The paper recommended the development of operational guidance to deal with this issue, a view shared by the Technical Commission. Given the budgetary implications, however, this should be referred to the Council for review.

31.10 The Commission reviewed A38-WP/263 and A38-WP/264 and Corrigenda No. 1, presented by Turkey, on improvements to flight data analysis monitoring systems and how they may be used to justify bio-mathematical fatigue models. The papers suggested that Member States consider licensing personnel involved in the analysis of flight data to achieve a greater degree of quality. The Commission noted the information presented and that the newly published *Flight Data Analysis Programme Manual* (Doc 10000) addressed the requirements to establish a flight data analysis programme, including quality assurance and training.

31.11 The Commission reviewed A38-WP/99, presented by the United States, on child safety restraints. The paper recommended establishing Recommended Practices encouraging air operators to use child restraining devices appropriate to each child's size and weight. It also called for recommendations and guidance on the use of different types of devices and future research and design for such devices. A38-WP/287, presented by ITF, also related to child restraints. The paper recommended the development of guidance for regulations related to child restraints and the elimination of exemptions for infants who presently could be carried in an adult's lap. It also called for guidance on the identification and use of such devices.

31.12 In view of the discussion, the Commission agreed on the need to develop harmonized provisions addressing child restraining devices and that the Council should be requested to develop appropriate provisions to address this issue taking into account the budgetary implications.

31.13 The Commission reviewed A38-WP/145, presented by the United States, on post-accident testing of flight crewmembers for problematic substances. The paper indicated that, although reference was made to post-accident testing in an ICAO Recommend Practice, the lack of a common approach to post-accident testing could may result in the inability of some States to properly determine the existence of or impairment from problematic substances.

31.14 The paper called for ICAO to review existing SARPs and guidance material to determine whether a specific Standard is required that would promote the expeditious testing for the problematic use of substances by any flight crew members following an aviation accident and the 39th Session of the Assembly provided with a report on this issue.

31.15 The Commission recognized that post-accident testing for problematic substances was a highly sensitive matter, involving national laws and access to personal information. However, the Commission agreed that the Council should further review this proposal in light of the views expressed.

31.16 The Commission reviewed A38-WP/220, presented by Venezuela (Bolivarian Republic of), which proposed that ICAO hold an AIG Divisional Meeting every five years with the main goal of ensuring effective coordination of regional and global activities related to accident investigations. The Commission noted that several ICAO manuals in force assist States in addressing many of the concerns listed in A38-WP/220: *Manual of Aircraft Accident and Incident Investigation* (Doc 9756); *Manual on Accident and Incident Investigation Policies and Procedures* (Doc 9962); and the *Manual on Regional Accident and Incident Investigation Organization* (Doc 9946). In addition, AIG workshops were held regularly in conjunction and in coordination with States and ICAO regional offices.

31.17 While acknowledging the importance of the points raised in A38-WP/220, the Commission noted that divisional-type meetings require the allocation of significant resources, and were planned when a substantial number of SARPs were necessary and “the task comprises a substantial number of subjects of world-wide scope which are confined to only one or a few specific air navigation fields”, as per the *Directives to Divisional-type Air Navigation Meetings and Rules of Procedure for their Conduct* (Doc 8143). However, it was also acknowledged, and agreed, that it would be beneficial to have additional AIG-related meetings similar to the International Accident Investigation Forums held by Singapore in 2010 and 2013. Such meetings would serve to share lessons and best practices in investigations.

31.18 Taking due account of the aforementioned, and in light of the financial implications of holding periodic AIG Divisional Meetings, the Commission agreed that this topic required further study and, given the budgetary implications, should be referred to the Council for review.

31.19 The Commission reviewed A38-WP/72, presented by Lithuania on behalf of the European Union (EU) and its Member States and the other Member States of the European Civil Aviation Conference (ECAC) and by EUROCONTROL. The Commission was made aware of the numerous difficulties faced by investigation authorities during major investigations of accidents and serious incidents involving large aircraft, which were felt to be mainly due to deficient implementation of certain Annex 13 — *Aircraft Accident and Incident Investigation* provisions by some States. This adversely impacted the quality of investigations which in turn negatively impacted safety. The Commission noted that limited resources and/or different priorities in some States could lead to a serious incident not being duly investigated.

31.20 The paper proposed several actions to improve the quality of investigations. Issues on “protection of safety information” were excluded as they were already included in the work of the ICAO Safety Information Protection Task Force.

31.21 The Commission agreed with the intent of the recommendations in A38-WP/72, noting that most were either already addressed in Annex 13 or presently under development. Nonetheless, it was acknowledged that the difficulties in some investigations might stem from lack of proper implementation of relevant Annex 13 provisions in some States, and that ICAO audits under the continuous monitoring approach (CMA) would be a suitable means to address those deficiencies.

31.22 Regarding the development of guidance on the establishment of protocols or agreements between accident investigation and judicial authorities, the Commission agreed that the Council should

review this proposal in the context of funds becoming available. The Commission also agreed that the Council, taking into account budgetary implications, should consider upgrading Recommendation 5.4.3 of Annex 13 to a Standard to further assist States' accident investigation authorities to obtain unrestricted access to all evidential material during investigations.

31.23 The Commission agreed that when the State of Occurrence decides not to investigate a serious incident, the investigation should be delegated, by mutual arrangement and consent, to another State or a regional accident and incident investigation organization (RAIO). States having a particular interest in the investigation included the State of the Operator and the State of Manufacturer. The Commission noted that while such a delegation could be made, States would still be required to meet their sovereign responsibilities for an investigation under the Convention on International Civil Aviation.

31.24 The Commission further agreed that the Council should urge States to: ensure that their Accident Investigation Authority was functionally independent of any entity whose interests could conflict with its own or impair the objectivity with which it discharged its duties; and develop cooperation arrangements between their accident investigation authorities, of either a bilateral or regional character, including support to disseminate final reports of investigated accidents and incidents, as well as their electronic publication in English.

31.25 The Commission reviewed A38-WP/285, presented by the Caribbean Aviation Safety and Security Oversight System (CASSOS) Member States, which called for the development of international Standards for pilot training addressing high altitude aerodynamics and high altitude aircraft handling skill training in Annex 1 — *Personnel Licensing* and Annex 6 — *Operation of Aircraft*, Part I — *International Commercial Air Transport — Aeroplanes*, Part II — *International General Aviation — Aeroplanes* and Part III — *International Operations — Helicopters*, and the inclusion of training requirements related to aircraft handling in the event of loss of airspeed indications in flight in Annex 1 and Annex 6 — Parts I, II and III.

31.26 The Commission noted that proposed upset prevention and recovery training (UPRT) provisions for Annex 1, Annex 6, Part I, and the *Procedures for Air Navigation Services — Training* (PANS-TRG, Doc 9868), and the associated guidance already addressed training elements for upset training, including high altitude stalls and system malfunctions/instrument failures (including loss of airspeed indications).

31.27 The Commission reviewed A38-WP/189, presented by the Interstate Aviation Committee (IAC), which argued for a need to mitigate loss of control in flight (LOC-I) events through awareness of the angle of attack (AOA) to improve a pilot's ability to recognize and recover from a stall. The paper suggested the development of provisions related to the installation of AOA indicators and addressed their appropriate use within pilot training programmes. The Commission supported the development of guidance material addressing upset prevention and recovery training as outlined in A38-WP/38, A38-WP/285 and A38-WP/189. Given the budgetary implications, however, this should be referred to the Council for review.

31.28 The Commission considered the added risks and high implementation costs associated with high altitude stall training and aircraft handling in the event of loss of airspeed indications in flight for operators regulated under Annex 6, Parts II and III. The Commission agreed that this matter be referred to Council for further study, taking into consideration budgetary issues.

31.29 The Commission reviewed A38-WP/354, presented by the Latin American Civil Aviation Commission, which contained information on advances made in technology where modified smartphone equipment was available with flight data recording functionality based on global positioning system (GPS) data for position and speed and several other functions. The equipment and the flight data analysis services were available at low cost and capable of detecting events such as hard landings and airspace violations.

31.30 The Commission was informed that during consultation with the Flight Recorder Panel regarding the use of such low-cost solutions for flight data acquisition and monitoring, concerns had been raised about the maturity of this technology which was not certified for use in aviation nor crash protected. Furthermore, issues of the protection of safety information existed regarding the inappropriate use of such safety information.

31.31 The Commission took note of this information and was of the view that the subject in question needed time to mature before consideration by States.

31.32 The Commission reviewed A38-WP/122 and Corrigenda Nos. 1 and 2, presented by IAC requesting the ICAO Council to develop a code of criteria for the certification of aerodromes. The proposal was supported by most States. One State noted that the current ICAO provisions sufficiently delineated the criteria for aerodrome certification and that if new criteria were to be developed, it was important to ensure that they were flexible enough so as not to negatively impact States and organizations and oversight entities of an airport authority. In this regard, the Commission was informed of a plan by ICAO to develop an implementation kit (iKit) that will contain detailed information, guidance and training materials on the subject. Support was voiced with offers made to contribute to the iKit.

31.33 In view of the discussion, the Commission agreed that the Council, taking into account budgetary implications, should initiate work to further examine this issue taking.

31.34 The Commission reviewed A38-WP/245 Revision No. 1, presented by the International Transport Workers' Federation (ITF) and the International Federation of Air Line Pilots' Associations (IFALPA) on guidelines for education and training to enable airline workers to recognize and respond to aircraft air supply system fumes. The paper invited the Assembly to note the implications for flight safety of exposure to oil fumes sourced to the aircraft air supply system. It also requested the Council to develop guidance material to improve the education and training of flight crew, cabin crew, and maintenance technicians in fume-related events. ITF and IFALPA offered to provide human resources for this effort. The Commission agreed with the intent of WP/245. Regarding the development of guidance material, the Commission agreed that the Council, taking into account budgetary implications, should review this proposal

31.35 Information papers were provided by United States (A38-WP/144); ASECNA (A38-WP/261); and IAC (A38-WP/123).

-----