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ICAO

ASSEMBLY
FORTY-SECOND SESSION

Montréal, 23 September–3 October 2025

TECHNICAL COMMISSION

REPORT

Approved by the Technical Commission of the Assembly and published by authority of the Secretary General

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ASSEMBLY — 42ND SESSION

MONTREAL, 23 SEPTEMBER TO 3 OCTOBER 2025

REPORT OF THE TECHNICAL COMMISSION

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REPORT OF THE TECHNICAL COMMISSION TO THE ASSEMBLY

General

1. The Technical Commission held five meetings between 25 and 29 September 2025.

2. Mr. Declan Fitzpatrick (Ireland) was elected Chairperson at the second Plenary Meeting of the Assembly. The Commission, at its first meeting, elected as First Vice-Chairperson Mr. Luiz Ricardo de Souza Nascimento (Brazil) on a nomination by the Dominican Republic seconded by Cote d'Ivoire and India. On a nomination by Australia and seconded by Cameroon and Kazakhstan, the Commission elected Ms. Toska Sem (Namibia) as Second Vice-Chairperson. On a nomination by Malta, and seconded by Bangladesh and Venezuela, the Commission elected Mr. Xuan Miao (China) as Third Vice-Chairperson.

3. Representatives from some 192 Contracting States and 58 Observer Delegations attended one or more meetings of the Commission.

4. The Secretary of the Commission was Ms. M. Merkle, Director, Air Navigation Bureau. Messrs. P. Luciani, Deputy Director, Air Navigation and Aviation Safety (ANS), and S. da Silva, Acting Deputy Director, Monitoring, Analysis and Coordination (MAC) served as Deputy Secretaries. The Commission was assisted by Mr. M. de Leon, Ms. A. Guiang, and by other members of the Secretariat as follows:

Mr. Y. Fattah, Chief, Multidisciplinary Priorities (MP)
Ms. D. Flanagan, Chief, Regional Safety Cooperation Unit (RSCU)
Ms. E. Gnehm, Chief, Safety Management Section (SM)
Mr. J. Guévin, Chief, Oversight Support Unit (OSU)
Mr. L. Jónasson, Chief, Communications, Navigation, Surveillance and Frequency Spectrum Management Section (CNSS) and Acting Chief, Global Interoperable Systems Section (GIS)
Ms. J. Jordaan, Chief, Aviation Medicine Section (MED)
Ms. C. Kim, Acting Chief, Air Traffic Management Section (ATM)
Ms. C. Knowles, Chief, Operational Safety Section (OPS)
Mr. F. Malaud, Chief, Remotely Piloted Aircraft Systems Section (RPAS)
Ms. L. McGuigan, Acting Chief, Cargo Safety Section (CSS)
Mr. M. Merens, Chief, Implementation Support Planning and Coordination (ISPC)
Mr. J. Nie, Chief, Safety and Air Navigation Oversight Audit Section (OAS)
Mr. T. Thormodsson, Accident Investigation Section (AIG)
Mr. Y. Wang, Chief, Airport Operations and Infrastructure Section (AOI)

Agenda and working arrangements

5. The following agenda items were considered by the Commission:

Agenda Item 23: Global Aviation Safety and Air Navigation Plans

Agenda Item 24: Aviation Safety and Air Navigation Priority Initiatives

Agenda Item 25: Other issues to be considered by the Technical Commission

6. The documents and working papers associated with the work of the Commission are listed by agenda item in the appendix to this report.

7. The action taken by the Commission in respect of each item is reported on separately in the paragraphs which follow. The material is arranged according to the numerical sequence of the agenda items considered by the Commission.

Agenda Item 23: Global Aviation Safety and Air Navigation Plans

Global Aviation Safety Plan (GASP)

23.1 The Commission reviewed A42-WP/17, presented by the Council of ICAO, which put forward the 2026-2028 (fifth) edition of the *Global Aviation Safety Plan* (GASP, Doc 10004) for endorsement by the Assembly. The revised GASP presents the global strategy for the continuous improvement of aviation safety, and is the master planning document upon which regional and national aviation safety plans are developed and implemented. The Commission recommended that the Assembly endorse the 2026-2028 edition of the GASP.

23.2 The Commission reviewed A42-WP/137, presented by the Republic of Korea and A42-WP/175, presented by Singapore and co-sponsored by New Zealand, the Philippines, the Flight Safety Foundation (FSF), the International Business Aviation Council (IBAC) and the International Federation of Air Line Pilots Associations (IFALPA) regarding the 2026-2028 edition of the GASP. The Commission agreed that ICAO provide the necessary support to Member States to develop and implement national aviation safety plans, in line with the latest edition of the GASP. The Commission further agreed that ICAO, through relevant expert groups, consider the inclusion of mechanisms to enhance data-driven safety planning, through the identification of global operational safety risks, as well as operational safety risks associated with climate, including significant and evolving meteorological phenomena and related environmental factors, in forthcoming editions of the GASP and/or related documentation.

23.3 Information papers presented by China (A42-WP/603) and Saudi Arabia (A42-WP/92, Revision No. 1) were noted by the Commission.

Global Air Navigation Plan (GANP)

23.4 The Commission reviewed A42-WP/31, presented by the Council of ICAO, which called for the endorsement of a major update of the Global Air Navigation Plan (GANP, Doc 9750 – Eighth Edition) and proposed an outlook for the ninth edition. The eighth edition of the GANP, available through the GANP Portal (https://www4.icao.int/ganpportal), reflects the global priorities set forth by the ICAO Assembly during its 41st Session and the ICAO Strategic Plan 2026-2050. It introduces: an update to the GANP strategy; guidance on the application of a performance-based approach to optimize the allocation of resources; an update to the GANP performance framework on environment and resilience; an update to the Aviation System Block Upgrade (ASBU) framework; and a mapping between the ASBU framework and the conceptual roadmap to enhance the visibility of the link between the strategic and technical levels of the GANP as requested during the Thirteenth Air Navigation Conference (AN-Conf/13) and the 40th Session of the ICAO Assembly.

23.5 The Commission reviewed A42-WP/192, presented by Thailand, co-authored by Singapore and co-sponsored by the United States, which highlighted challenges related to the ASBU framework stability and structure that were hindering implementation. To address these challenges, the paper proposed streamlining the ASBU framework and advocated for the establishment of a “minimum path” for ASBU implementation. The paper further highlighted the limited application of a

performance-based approach and proposed that support be provided through the planning and implementation regional groups (PIRGs) to assist States and regions in reporting their performance in a holistic and harmonized manner.

23.6 The Commission reviewed A42-WP/202, presented by China and Singapore and co-sponsored by the Dominican Republic, concerning the integration of operational improvement initiatives across ICAO regions. While acknowledging that regions had different priorities and were implementing the GANP at varying paces due to their specific needs and challenges, the Commission recognized the need for effective cross regional integration on the implementation of operational improvement initiatives to support an integrated, harmonized, globally interoperable and seamless air navigation system.

23.7 The Commission reviewed A42-WP/432, presented by Peru and supported by Latin American Civil Aviation Commission (LACAC) Member States[*], which outlined challenges of aligning its National Air Navigation Plan with the GANP. The paper proposed to extend the GANP update cycle to allow sufficient time for States to update their respective national plans and enable an efficient, harmonized and interoperable implementation of ASBU elements in coordination with the State's aviation community. The paper also requested ICAO to intensify its efforts to provide GANP documentation in ICAO's six official languages.

23.8 The Commission recommended that the Assembly endorse the Eighth Edition of the GANP. Considering the challenges and proposals in A42-WP/192, A42-WP/202 and A42-WP/432. The Commission supported the proposed outlook for the Ninth Edition of the GANP and agreed that ICAO develop and disseminate guidance on a minimum implementation path, providing clear, actionable steps and timelines for States. The Commission also agreed that ICAO facilitate the use of the guidance provided within the GANP framework for reporting performance in a transparent, holistic and harmonized manner. The Commission also agreed that ICAO develop guidance for the integration of initiatives across regions, including an approach to define a minimum set of GANP initiatives to be implemented globally with associated timelines, and an approach whereby neighbouring regions would define a set of joint GANP initiatives and implementation timelines between themselves. The Commission agreed with the proposal to extend the duration of the GANP update cycle to six years and focus on supporting States in implementing the GANP and developing national plans. The Commission also recalled that AN-Conf/13 had addressed the translation of the GANP and that ICAO had made available the GANP global strategic level (printable) in all six ICAO languages as per AN-Conf/13 Recommendation 1.1/1. Furthermore, it was noted that the 41st Session of the ICAO Assembly referred a similar proposal to the Council, which recognized the importance of translating the entire GANP, taking into account existing priorities and the availability of extra-budgetary resources.

23.9 The Commission reviewed A42-WP/209, presented by Brazil, which highlighted the effect that security, facilitation and other pre-boarding processes may have on the efficiency of flight operations. It proposed that ICAO align the efficiency principles of the GANP, the Global Aviation Security Plan (GASeP) and other programmes through a comprehensive study to identify where pre-boarding processes most significantly affect efficiency and to develop related key performance indicators (KPIs) to ensure interrelation among the global plans. The paper further proposed that ICAO develop technical material and tools to support States in the collection, analysis and reporting of pre-boarding efficiency indicators, and encouraged States to promote their voluntary sharing. The Commission acknowledged the importance of increasing harmonization between the GANP, the GASP and the GASeP, and agreed to refer the proposal

[*] Belize, Bolivia (Plurinational State of), Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Paraguay and Uruguay

to the relevant expert groups for further consideration and evaluation, with due regard to existing priorities and available resources.

23.10 The Commission reviewed A42-WP/341, presented by Singapore, the United Arab Emirates, Airports Council International (ACI), the Civil Air Navigation Services Organisation (CANSO), IBAC, the International Coordinating Council of Aerospace Industries Associations (ICCAIA), and the International Federation of Air Traffic Safety Electronics Associations (IFATSEA), which presented the industry-developed Complete Air Traffic System (CATS) Concept of Operations (CONOPS). The Commission encouraged the submission of proposals, to relevant experts groups, to consider reflecting the CATS CONOPS and its strategic actions in future revisions to the *Global Air Traffic Management Operational Concept (GATMOC)* (Doc 9854), the GANP as well as initiatives such as advanced air mobility (AAM) and higher airspace operations (HAO).

23.11 The Commission reviewed A42-WP/527, presented by Iran (Islamic Republic of), which noted the challenges associated with sanctions on civil aviation and their effect on the State's ability to advance the development of its air navigation system in alignment with ICAO provisions and the GANP. The Commission noted that sanctions were not limited to air navigation and that the subject had been raised at previous ICAO Assemblies by several States, including Iran (Islamic Republic of). The Commission also noted that the impact of sanctions on civil aviation, including on the planning to improve air navigation services, was outside of the scope of the GANP and beyond the mandate of ICAO expert group(s). The Commission highlighted that the subject of sanctions was outside the scope of the Technical Commission and recalled that the Economic Commission, during the 41st Session of the ICAO Assembly, recognized that sanctions were complex, political and sensitive, and that these matters be brought to the attention of the President of the Council, whose good offices had previously been engaged on such issues.

23.12 Information papers presented by Bolivia (Plurinational State of) (A42-WP/345), China (A42-WP/589, A42-WP/594, A42-WP/595, A42-WP/596 and A42-WP/607), Japan (A42-WP/543), Saudi Arabia (A42-WP/537), the Agency for Air Navigation Safety in Africa and Madagascar (ASECNA)[*] (A42-WP/378), CANSO (A42-WP/522 and A42-WP/529) and the International Air Transport Association (IATA) (A42-WP/350) were noted by the Commission.

23.13 In view of the discussion on the GASP and GANP under this agenda item and A42-WP/225 under Agenda Item 24, the Commission agreed to submit, for adoption by the Plenary, the following resolution, to supersede Assembly Resolution 41-6:

Resolution 23/1: ICAO global planning for safety and air navigation

Whereas ICAO strives to achieve the safe and orderly development of civil aviation through cooperation among Member States and other stakeholders;

Whereas ICAO established Strategic Goals in its 2026-2050 Strategic Plan, including goals related to safety and capacity and efficiency;

Recognizing the importance of global frameworks and regional and national plans to support the Strategic Goals of ICAO;

Recognizing the importance of effective implementation of regional and national plans and initiatives based on the global frameworks;

[*] On behalf of Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Equatorial Guinea, France, Gabon, Guinea-Bissau, Madagascar, Mali, Mauritania, Niger, Rwanda, Senegal, Togo

Recognizing that further progress in improving the global safety, capacity and efficiency of civil aviation is best achieved through a cooperative, collaborative and coordinated approach in partnership with all stakeholders under the leadership of ICAO; and

Noting the approval by the Council of the 2026-2028 edition of the Global Aviation Safety Plan (GASP) and of the eighth edition of the Global Air Navigation Plan (GANP);

The Assembly:

1. *Endorses* the 2026-2028 edition of the Global Aviation Safety Plan (GASP) and the eighth edition of the Global Air Navigation Plan (GANP) as the global strategic directions for safety and the evolution of the air navigation system, respectively;

2. *Resolves* that ICAO shall implement and keep current the GASP and the GANP to support the relevant Strategic Goals of the Organization, while ensuring necessary stability and alignment;

3. *Resolves* that these global plans shall be implemented and kept current in close cooperation, collaboration and coordination with all concerned stakeholders;

4. *Resolves* that these global plans shall provide the frameworks in which regional, subregional and national plans will be developed and implemented, thus ensuring consistency, harmonization and coordination of efforts aimed at improving international civil aviation safety, capacity and efficiency;

5. *Urges* Member States to develop sustainable solutions to fully exercise their safety oversight and air navigation responsibilities which can be achieved by sharing resources, utilizing internal and/or external resources, such as regional and subregional organizations and the expertise of other States;

6. *Urges* Member States to demonstrate the political will necessary for taking remedial actions to address safety and air navigation deficiencies, including those identified by Universal Safety Oversight Audit Programme (USOAP), through the GASP, the GANP and the ICAO regional planning process;

7. *Urges* Member States, the industry and financing institutions to provide the needed support for the coordinated implementation of the GASP and GANP, as well as regional and national plans, avoiding duplication of efforts;

8. *Calls* upon States and invites other stakeholders to cooperate in the development and implementation of regional, subregional and national plans based on the frameworks of the GASP and GANP;

9. *Instructs* the Secretary General to promote, make available and effectively communicate the GASP and the GANP, and provide the necessary support to Member States to develop and implement national plans; and

10. *Declares* that this resolution supersedes Resolution A41-6 on ICAO global planning for safety and air navigation.

APPENDIX A

Global Aviation Safety Plan (GASP)

Reaffirming that the primary objective of the Organization continues to be the improvement of safety and an associated reduction in the number of accidents and related fatalities within the international civil aviation system, in line with the goal of zero fatalities in international aviation, as per the ICAO 2026-2050 Strategic Plan;

Recognizing that safety is a responsibility involving ICAO, Member States and all other stakeholders;

Recognizing the safety benefits that can be drawn from partnerships between States and industry;

Noting that a safe, resilient and sustainable aviation system contributes to the economic development of States and their industries;

Recognizing the need to maintain the public's confidence in air transport by providing access to relevant safety information;

Recognizing that a proactive approach in which a strategy is established to set goals, targets and indicators to manage organizational challenges and operational safety risks is of paramount importance to the achievement of further improvements in aviation safety;

Recognizing that regional aviation safety groups (RASGs) have been implemented by ICAO, taking into account the needs of the various regions and building on the already existing structures and forms of cooperation;

Noting the intent to apply a risk-based approach to managing safety in the GASP to enhance safety by focusing action where it is most needed;

Noting the development of the global aviation safety roadmap as an action plan to assist the aviation community in achieving the GASP goals, through a structured, common frame of reference for all relevant stakeholders; and

Noting the need to assist Member States in building upon safety oversight systems to adopt a safety management approach under their State safety programme (SSP);

The Assembly:

1. *Stresses* the need for continuous improvement of aviation safety through a reduction in the number of accidents and related fatalities in air transport operations, in all parts of the world;

2. *Stresses* that limited resources of the international aviation community should be used strategically to support States or regions seeking assistance to facilitate SSP implementation, including strengthening safety oversight;

3. *Urges* Member States to implement national aviation safety plans consistent with the GASP to continually reduce fatalities and the risk of fatalities;

4. *Urges* Member States, regional safety oversight organizations (RSOOs), RASGs and international organizations concerned, to work with all stakeholders to implement regional aviation safety plans consistent with the GASP to continually reduce fatalities and the risk of fatalities;

5. *Urges* States to fully exercise safety oversight of their operators in full compliance with applicable Standards and Recommended Practices (SARPs), and assure themselves that every foreign operator flying into their territory receives adequate oversight from its own State and take appropriate action when necessary to preserve safety; and

6. *Encourages* ICAO to continue the development and update of guidance material and tools to support the development and implementation of regional and national aviation safety plans.

APPENDIX B

Global Air Navigation Plan (GANP)

Whereas the enhancement of the safety, capacity and efficiency of aviation operations is a key element of the ICAO Strategic Goals;

Having adopted Resolution A42-9, a consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation;

Recognizing the importance of GANP as an operational strategy and part of the basket of measures to achieve ICAO's global aspirational goals on CO_2 emissions;

Recognizing that many States and regions are developing new air navigation plans for their own air navigation modernization and transformation;

Recognizing that a service-oriented architecture fosters the safe, efficient and flexible provision of air navigation services; and

Recognizing that sharing of best practices, lessons learned, and provision of guidance material can support States in the introduction of operational improvements in a cost-effective manner through the adoption of advanced systems without going through intermediate steps;

The Assembly:

1. *Instructs* the Council to use the guidance in the Global Air Navigation Plan (GANP) to develop and prioritize the technical work programme of ICAO in the field of air navigation;

2. *Calls upon* States, planning and implementation regional groups (PIRGs), and the aviation industry to utilize the guidance provided in the GANP for planning and implementation activities which establish priorities, targets and indicators consistent with globally-harmonized objectives, taking into account operational needs;

3. *Calls upon* States to take into consideration the GANP guidelines for the implementation of operational improvements as part of their national strategy to reduce the environmental impact, including CO_2 emissions, from international aviation;

4. *Calls upon* States, PIRGs, and the aviation industry to provide timely information to ICAO, and to each other, regarding the implementation status of the GANP, including the lessons learned from the implementation of the operational improvements outlined in the ASBU framework;

5. *Invites* PIRGs to use ICAO standardized tools or adequate regional tools to monitor and, in collaboration with ICAO, analyse the implementation status of air navigation systems;

6. *Instructs* the Council to publish the results of the analysis on the regional performance dashboards including, as a minimum, the key implementation priorities and accrued environmental benefits associated with the implementation of the operational improvements outlined in the ASBU framework;

7. *Urge*s States that are developing new air navigation plans, for their own air navigation modernization, to coordinate with ICAO and align their plans within the framework of their respective PIRGs so as to ensure regional harmonization, and global compatibility and interoperability;

8. *Instructs* the Council to continue developing the GANP, including a roadmap of minimum capabilities necessary for the evolution of the air navigation system and timelines for global implementation, keeping it current with evolving and emerging technologies and operational requirements;

9. *Requests* ICAO to incorporate principles of service-oriented architecture into the GANP, so as to guide air navigation service providers in the planning and implementation of agile, globally interoperable and future-ready systems to support seamless air traffic management; and

10. *Invites* ICAO to progress in the development of guidance material related to the national air navigation plan during the upcoming revisions of the GANP and collect and share best practices, lessons learned, and benchmark results related to the implementation of operational improvements.

Agenda Item 24: Aviation Safety and Air Navigation Priority Initiatives

24.1 The Commission reviewed A42-WP/23, presented by the Council of ICAO, regarding an overview of the key initiatives and activities in the areas of aviation safety and air navigation over the 2026-2028 triennium, in line with the ICAO Strategic Plan 2026-2050 and Business Plan 2026-2028. The working paper also identified safety trends and highlighted the ongoing and future work to address associated risks. The Commission urged States, together with international organizations and assisted by the industry, where appropriate, to provide support and voluntary contributions, whether financial or in-kind, to the accomplishment of the key initiatives and activities. The Commission also urged States to consider ICAO's initiatives and activities when planning and executing their own measures to further enhance aviation safety and air navigation efficiency.

24.2 The Commission reviewed A42-WP/30, presented by the Council, which reported on the outcomes of the Fourteenth Air Navigation Conference (AN-Conf/14) and the follow-up actions undertaken by ICAO. The Commission reaffirmed that the effective implementation of the Conference recommendations requires coordinated efforts, adequate resources and sustained engagement from both ICAO and Member States. The Commission noted the benefits and challenges associated with convening divisional-type meetings ahead of ICAO Assemblies and recognized the Organization's continued efforts to increase the efficiency and effectiveness of the Technical Commission of the Assembly.

Accident investigation and prevention

24.3 The Commission reviewed A42-WP/43, presented by Air Crash Victims' Families' Federation International (ACVFFI) and co-sponsored by Airport Council International (ACI) and Kazakhstan; A42-WP/48, presented by the Interstate Aviation Committee (IAC) on behalf of Belarus, Kyrgyzstan, Russian Federation, Tajikistan and Uzbekistan; A42-WP/330, presented by IATA, ICCAIA and IFALPA and co-sponsored by ACI and IAC; and A42-WP/480, presented by Iran (Islamic Republic of). These working papers highlighted concerns related to timely publication of investigation final reports

and the effective use of regional accident and incident investigation organizations (RAIO) by States with limited aviation capacity and that do not have sufficient resources for the establishment and adequate functioning of a national independent accident investigation authority (AIA). The Commission, recognizing the concerns and challenges on the timely publication of investigation final reports, urged States to abide by the timeframes established in Annex 13 — *Aircraft Accident and Incident Investigation*. Meanwhile, the Commission noted the progress on accident/incident investigation cooperation mechanisms (ICM), including support for States with limited capacity through association with RAIO/ICM to ensure independent investigations. Moreover, the Commission acknowledged that participating in a RAIO does not mean that States relinquish their sovereignty, authority, or responsibilities for accident investigation. In addition, the Commission recognized ICAO's existing mechanisms under the Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA) to facilitate ICAO's monitoring of RAIO activities delegated by States through formal arrangements, as well as its audits on relevant accident investigation responsibilities, including the timely publication of accident and incident investigation final reports. The Commission agreed that the contents of these working papers be forwarded to the appropriate expert groups for further study and consideration.

24.4 The Commission reviewed A42-WP/49, presented by the IAC on behalf of Armenia, Belarus, Kyrgyzstan, Russian Federation, Tajikistan and Uzbekistan, which addressed issues in relation to improving the efficiency of aviation accident/incident data reporting (ADREP) system and the exchange of related data according to ICAO Standards and Recommended Practices (SARPs). The Commission noted that updates to the ICAO ADREP system and the ADREP taxonomy to align with latest technology were currently underway. The Commission recognized that there are no SARPs referring to, or recommending, specific tools or software for the ADREP system, but recommended that the content of the working paper be brought to the attention of the relevant expert groups for further study.

24.5 The Commission reviewed A42-WP/196, presented by China, which highlighted the benefits of a unified international approach for flight recorder data download interfaces. The Commission, recognizing both the benefits and the concerns related to data integrity, recommended to direct the matter to the relevant industry group, as such a body would be better equipped to address issues related to interoperability, form, fit and function for flight recorder data downloading.

24.6 The Commission reviewed A42-WP/411, presented by Jordan on behalf of the Arab Civil Aviation Organization (ACAO) Member States[*] and co-sponsored by IAC, which highlighted challenges associated with the translation of technical terms in the Arabic version of Annex 13 and the implementation of the requirements pertaining to independence of accident investigation. The Commission recommended that the contents of this working paper be brought to the attention of the relevant expert groups for further analysis and consideration.

24.7 The Commission reviewed A42-WP/496, presented by Morocco, which highlighted the importance of effective coordination between AIAs and other relevant State organizations responsible for the establishment of a comprehensive assistance framework for victims of civil aviation accidents and their families. In addition, the paper proposed to relocate the USOAP protocol question on assistance to aircraft accident victims and their families from the audit area of accident investigation (AIG) to that of aerodromes and ground aids (AGA). The Commission recognized that further work in relation to assistance to aircraft accident victims and their families was ongoing by ICAO. The Commission recommended that the contents of the working paper be brought to the attention of the relevant expert groups for further study and analysis.

[*] Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, the United Arab Emirates, Yemen.

24.8 Information papers provided by Argentina supported by Bolivia (Plurinational State of), Brazil, Chile, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Suriname, Uruguay and Venezuela (Bolivarian Republic of) (A42-WP/413), Belize on behalf of Member States[*] of the Central American Corporation for Air Navigation Services (COCESNA) (A42-WP/404), and Canada (A42-WP/272) were noted.

Fatigue management

24.9 The Commission reviewed A42-WP/83, presented by Saudi Arabia and co-sponsored by IAC, which addressed the effects of the digital transformation of the modern flight deck as a contributing factor to cognitive fatigue and information overload of pilots. The Commission expressed broad support for the paper and agreed on the necessity to apply human-centered design principles in flightdeck design, along with training for skills to manage complex digital information effectively, as a mitigation to these risks. The Commission expressed support for the proposed amendment to Assembly Resolution A41-10, Appendix O and agreed to refer the other proposed actions to the Council for further consideration, taking into account existing priorities funded through the 2026-2028 Budget and extra budgetary contributions.

24.10 The Commission reviewed A42-WP/110, presented by the United Arab Emirates, which urged ICAO to develop global guidance, training and regulatory provisions on fatigue risk in aviation maintenance, addressing operational challenges and building on existing materials to enhance safety and oversight. The Commission recognized the importance of this issue and agreed to refer the proposed action to the Council for further consideration, taking into account existing priorities funded through the 2026-2028 Budget and extra budgetary contributions.

24.11 The Commission reviewed A42-WP/87, presented by the United Arab Emirates; A42-WP/174, presented by India; A-42-WP/258, presented by Bolivia (Plurinational State of), Oman, IFALPA, IBAC, the International Transport Workers' Federation (ITF) and co-sponsored by Dominican Republic, the International Federation of Air Traffic Controllers Associations (IFATCA) and IATA; and A42-WP/424, presented by Morocco, which discussed fatigue management. The Commission recognized that fatigue management requirements were described within Annex 6 — *Operation of Aircraft* and Annex 11 — *Air Traffic Services* and supported by applicable guidance material, including the *Manual for the Oversight of Fatigue Management Approaches* (Doc 9966). Noting that work was already ongoing to review and revise fatigue-related guidance, the Commission agreed that the contents of these working papers be brought to the attention of the relevant expert groups for further consideration.

24.12 In light of the discussion, the Commission agreed to submit, for adoption by the Plenary, the following resolution to supersede Assembly Resolution A41-10, Appendix O:

Resolution 24/1: Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation

Whereas in Resolution A15-9 the Assembly resolved to adopt in each session for which a Technical Commission is established, a consolidated statement of continuing policies related specifically to air navigation, up to date as at the end of that session;

Whereas a statement of continuing policies and associated practices related specifically to air navigation as they existed at the end of the 40th Session of the Assembly was adopted by the Assembly in Resolution A40-4, Appendices A to O inclusive;

[*] Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

Whereas the Assembly has reviewed proposals by the Council for the amendment of the statement of continuing policies and associated practices in Resolution A40-4, Appendices A to O inclusive, and has amended the statement to reflect the decisions taken during the 42nd Session;

Whereas a policy or associated practice that requires continued application for a period of more than three years should be regarded as a continuing policy or associated practice; and

Whereas material which is contained in regulatory or readily available authoritative ICAO documents, such as Annexes, global plans, rules of procedures and directives to air navigation meetings should normally be excluded from the consolidated statements, including, in particular, the associated practices;

The Assembly:

1. *Resolves* that:

   a) the appendices attached to this resolution constitute the consolidated statement of continuing air navigation policies and associated practices of ICAO as they exist at the close of the 42nd Session of the Assembly; and

   b) the practices associated with the individual policies in the appendices constitute guidance intended to facilitate and ensure implementation of the respective policies.

2. *Requests* the Council to keep the consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation under review and advise the Assembly when changes are required to the statement; and

3. *Declares* that this resolution supersedes Resolution A40-4 with its appendices and Resolution A15-9.

Appendix A

Air navigation meetings of worldwide scope

Whereas the holding of worldwide air navigation meetings is an important function of ICAO and entails substantial expenditures of effort and money by the Member States and ICAO; and

Whereas it is necessary to ensure that maximum benefit is obtained from these meetings without imposing any undue burden upon the Member States or ICAO;

The Assembly resolves that:

1. meetings, convened by the Council, in which all Member States may participate on an equal basis shall be the principal means of progressing the resolution of problems of worldwide import, including the development of amendments to the Annexes, Global Plans and other basic documents in the air navigation field;

2. such meetings shall be convened only when justified by the number and importance of the problems to be dealt with and when there is the likelihood of constructive action on them; meetings convened on this basis may also be requested to conduct exploratory discussions on matters not mature for definite action;

3. the organization of such meetings shall be arranged so that they are best suited to carry out the assigned task and to provide proper coordination among the technical specialities involved; and

4. unless necessitated by extraordinary circumstances, not more than two such meetings shall be convened in a calendar year, and successive meetings dealing extensively with the same technical specialty shall be separated by at least twelve months.

Associated practices

1. Before deciding to refer a matter to a worldwide meeting, the Council should consider whether correspondence with States or use of machinery such as panels or air navigation study groups could dispose of it or facilitate subsequent action on it by a future meeting.

2. The agenda should be sufficiently explicit to define the task to be performed and to indicate the types of specialized expertise that will be needed at the meeting. In an agenda including more than one technical specialty the types of expertise called for should be kept to the minimum compatible with efficiency.

3. To facilitate the participation of all Member States, the Council should so plan the meeting programme as to keep to the minimum, consistent with efficiency, the demands upon the time of States' technical officials.

4. The planned duration of a meeting should allow adequate time for completion of the agenda, study of the report as drafted in the working languages of the meeting and approval of the report. Following the meeting, the Secretariat should make any necessary minor editorial amendments and typographical corrections to the meeting report.

5. The approved agenda and the main supporting documentation should be dispatched, normally by air, not less than ten months in advance of the convening date in the case of the agenda and not less than three months in the case of the main supporting documentation; other documentation should be dispatched as soon as possible.

Appendix B

Panels of the Air Navigation Commission (ANC)

Whereas panels of the Air Navigation Commission have proved a valuable medium for advancing the solution of specialized technical problems; and

Whereas it is necessary to ensure that maximum benefit is obtained from Air Navigation Commission panels without imposing any undue burden upon the Member States or ICAO;

The Assembly resolves that:

1. the Air Navigation Commission shall establish panels if necessary to advance the solution of specialized technical problems which cannot be solved adequately or expeditiously by the Air Navigation Commission through other established facilities;

2. the Air Navigation Commission shall ensure that the terms of reference and the work programmes of panels shall support the ICAO Strategic Objectives, be clear and concise with timelines and shall be adhered to;

3. the Air Navigation Commission shall review periodically the progress of panels and shall terminate panels as soon as the activities assigned to them have been accomplished. A panel shall be allowed to continue in existence only if its continuation is considered justified by the Air Navigation Commission; and

4. panel activity shall support a performance-based approach to SARPs development to the extent possible.

Associated practice

Reports should be clearly presented as the advice of a group of experts to the Air Navigation Commission so that they cannot be construed as representing the views of Member States.

APPENDIX C

Certificates of airworthiness, certificates of competency and licences of flight crews

Whereas Article 33 of the Convention does not explicitly define the purposes for which recognition is to be accorded to certificates and licences;

Whereas several interpretations exist as to whether or not there is any obligation on Member States to recognize certificates and licences issued or rendered valid by other Member States pending the coming into force of SARPs applicable to the aircraft or flight crew involved; and

Whereas with respect to certain categories of aircraft or flight crew licences, it may be many years before SARPs come into force or it may be found most practicable not to adopt SARPs for some categories or flight crew licences;

The Assembly resolves that:

1. certificates of airworthiness and certificates of competency and licences of the flight crew of an aircraft issued or rendered valid by the Member State in which the aircraft is registered shall be recognized as valid by other Member States for the purpose of flight over their territories, including landings and take-offs, subject to the provisions of Articles 32 (b) and 33 of the Convention; and

2. pending the coming into force of international Standards respecting particular categories of aircraft or flight crew, and certificates issued or rendered valid, under national regulations, by the Member State in which the aircraft is registered shall be recognized by other Member States for the purpose of flight over their territories, including landings and take-offs.

APPENDIX D

Qualified and Competent Aviation Personnel

Whereas the satisfactory implementation of SARPs and PANS is contingent upon having qualified and competent personnel;

Whereas difficulties are being experienced by Member States in these matters due to a lack of qualified personnel to support the existing and future air transportation system;

Whereas special effort is required to support Member States in meeting their human resource needs; and

Whereas learning activities conducted by ICAO are an effective means of promoting a common understanding and the uniform application of SARPs and PANS;

The Assembly resolves that:

1. ICAO shall assist Member States in achieving and maintaining competency of aviation personnel through the ICAO Aviation Training Programme;

2. the ICAO Aviation Training Programme shall be governed by the following principles:

    a) qualification of aviation professionals is the responsibility of Member States;

    b) the highest priority is placed on learning activities that support the implementation of SARPs;

    c) cooperation with Member States and industry is essential to develop and implement learning activities to support the implementation of SARPs; and

    d) priority shall be placed on cultivating the next generation of aviation professionals.

3. ICAO advises operators of training facilities but does not participate in the operation of such facilities; and

4. Member States assist each other to optimize access to learning activities for their aviation professionals.

Associated practices

1. The Council should assist Member States to harmonize aviation professionals' levels of competency. These efforts should be based on:

    a) data analysis to determine priorities and needs;

    b) identified training needs for the implementation of ICAO provisions; and

    c) a competency-based approach.

APPENDIX E

Formulation and Implementation of Regional Plans including Regional Supplementary Procedures

Whereas the Council establishes Regional Plans setting forth the facilities, services and Regional Supplementary Procedures to be provided or employed by Member States pursuant to Article 28 of the Convention;

Whereas the Regional Plans require amendment from time to time to reflect the changing needs of international civil aviation;

Whereas ICAO has established an approach to planning of facilities and services that centres on the Global ATM Operational Concept and the Global Air Navigation Plan; and

Whereas any serious deficiencies in the implementation of Regional Plans may affect the safety, regularity and efficiency of international air operations and, therefore, should be eliminated as quickly as practicable;

The Assembly resolves that:

1. Regional Plans shall be revised when it becomes apparent that they are no longer consistent with current and foreseen requirements of international civil aviation;

2. when the nature of a required change permits, the associated amendment of the Regional Plan shall be undertaken by correspondence between ICAO and Member States and International Organizations concerned; and

3. when amendment proposals are associated with the services and facilities provided by States and such amendment proposals:

   a) do not represent changes to the requirements set by the Council in the Regional Plans;

   b) do not conflict with established ICAO policy; and

   c) do not involve issues which cannot be resolved at the regional level;

the Council may delegate authority for processing and promulgating such amendments to the regional level.

4. Regional air navigation (RAN) meetings, although important instruments in the determination of the facilities and services, shall be convened only to address issues which cannot be adequately addressed through the planning and implementation regional groups (PIRGs);

5. priority shall be given in the implementation programmes of Member States to the provision and continuing operation of those facilities and services, the lack of which would likely have an adverse effect on international air operations;

6. the identification and investigation of and action by ICAO on significant deficiencies in the implementation of Regional Plans shall be carried out in the minimum practicable time; and

7. Planning and implementation regional groups (PIRGs), using a project management approach, shall identify problems and shortcomings in Regional Plans and in the implementation thereof, along with suggested remedial measures.

Associated practices

1. The Council should ensure that the structure and format of Regional Plans is aligned with the Global Air Navigation Plan and is in support of a performance-based approach to planning.

2. In assessing the urgency of any revision of the Regional Plans, the Council should take into account the time needed by Member States to arrange for the provision of any necessary additional facilities and services.

3. The Council should ensure that implementation dates in Regional Plans involving the procurement of new types of equipment are realistically related to the ready availability of suitable equipment.

4. The Council should ensure that web-based regional plans are developed, with supporting planning tools, in order to improve efficiency and expedite the amendment cycle.

5. The Council should use the planning and implementation regional groups (PIRGs) it has established throughout the regions to assist in keeping up to date the Regional Plans and any complementary documents.

APPENDIX F

Regional air navigation (RAN) meetings

Whereas RAN meetings are important instruments in the determination of the facilities and services the Member States are expected to provide pursuant to Article 28 of the Convention;

Whereas these meetings entail substantial expenditures of effort and money by Member States and ICAO;

Whereas it is necessary to ensure that maximum benefit is obtained from these meetings without imposing any undue burden on Member States or ICAO; and

Considering that regional air navigation planning is normally accomplished by planning and implementation regional groups (PIRGs);

The Assembly resolves that:

1. RAN meetings shall be convened only to address issues which cannot be adequately addressed through PIRGs;

2. the convening of such meetings and their agendas shall be based on the existence or expectation of specific shortcomings in the Regional Plans of the respective areas;

3. the geographical area to be considered, account being taken of the existing and planned international air transport and international general aviation operations, the technical fields to be dealt with and the languages to be used shall be decided for each such meeting;

4. the organization best suited to deal with the agenda and to ensure effective coordination among the components of the meeting shall be used for each such meeting; and

5. meetings of limited technical and/or geographical scope shall be convened when specific problems, particularly those requiring urgent solution, need to be dealt with or when convening them will reduce the frequency with which full scale RAN meetings must be held.

Associated practices

1. The Council should endeavour to hold RAN meetings at sites within the areas concerned and should encourage the Member States within those areas to serve as host, either individually or jointly.

2. The approved agenda and the main supporting documentation should be made available, by electronic means, not less than ten months in advance of the convening date in the case of the agenda and not less than three months in the case of the main supporting documentation.

3. The Council should ensure that adequate guidance is made available to RAN meetings on operational and technical matters relevant to their agenda.

4. Each participating Member State should inform itself, in advance of a meeting, on the plans of its air transport operators and its international general aviation for future operations and, similarly, on the expected traffic by other aircraft on its registry and on the overall requirements of these various categories of aviation for facilities and services.

5. The Council, taking into account the requirement to improve still further existing safety levels, should foster the establishment, for and by RAN meetings, of up-to-date planning criteria which would aim to ensure that Regional Plans satisfy the operational requirements and are economically justified.

6. The Council should develop and maintain specific and detailed directives for consideration of implementation matters at RAN meetings.

APPENDIX G

Delimitation of air traffic services (ATS) airspaces

Whereas Annex 11 to the Convention requires a Member State to determine those portions of airspace over its territory within which air traffic services will be provided and, thereafter, to arrange for such services to be established and provided;

Whereas Annex 11 to the Convention also makes provision for a Member State to delegate its responsibility for providing air traffic services over its territory to another State by mutual agreement;

Whereas cooperative efforts between Member States could lead to more efficient air traffic management;

Whereas both the delegating and the providing State can reserve the right to terminate any such agreement at any time; and

Whereas Annex 11 to the Convention prescribes that those portions of the airspace over the high seas where air traffic services will be provided shall be determined on the basis of regional air navigation agreements, which are agreements approved by the Council usually on the advice of regional air navigation meetings;

The Assembly resolves, with reference to regional air navigation plans, that:

1. the limits of ATS airspaces, whether over States' territories or over the high seas, shall be established on the basis of technical and operational considerations with the aim of ensuring safety and optimizing efficiency and economy for both providers and users of the services;

2. established ATS airspaces should not be segmented for reasons other than technical, operational, safety and efficiency considerations;

3. if any ATS airspaces need to extend over the territories of two or more States, or parts thereof, agreement thereon should be negotiated between the States concerned, taking into account the need for cost-effective introduction and operation of CNS/ATM systems, and more efficient airspace management, in particular, in the upper airspace;

4. the providing State in implementing air traffic services within airspace over the territory of the delegating State shall do so in accordance with the requirements of the delegating State, which shall establish and maintain in operation such facilities and services for the use of the providing State as are mutually agreed to be necessary;

5. any delegation of responsibility by one State to another or any assignment of responsibility over the high seas shall be limited to technical and operational functions pertaining to the safety and regularity of the air traffic operating in the airspace concerned;

and, furthermore, *declares* that:

6. any Member State which delegates to another State the responsibility for providing air traffic services within airspace over its territory does so without derogation of its sovereignty; and

7. the approval by the Council of regional air navigation agreements relating to the provision by a State of air traffic services within airspace over the high seas does not imply recognition of sovereignty of that State over the airspace concerned.

Associated practices

1. Member States should seek the most efficient and economic delineation of ATS airspaces, the optimum location of points for transfer of responsibility and the most efficient coordination procedures in cooperation with the other States concerned and with ICAO.

2. Member States should consider, as necessary, establishing jointly a single air traffic services provider to be responsible for the provision of air traffic services within ATS airspace extending over the territories of two or more States or over the high seas.

3. The Council should encourage States providing air traffic services over the high seas to enter, as far as is practicable, into agreements with appropriate States providing air traffic services in adjacent airspaces, so that, in the event the required air traffic services over the high seas cannot be provided, contingency plans, which may require temporary modifications of ATS airspace limits, will be available to be put into effect with the approval of the ICAO Council until the original services are restored.

APPENDIX H

Provision of search and rescue services

Whereas in accordance with Article 25 of the Convention each Member State undertakes to provide such measures of assistance to aircraft in distress in its territory as it may find practicable and to collaborate in coordinated measures which may be recommended from time to time pursuant to the Convention;

Whereas Annex 12 to the Convention contains specifications relating to the establishment and provision of search and rescue services within the territories of Member States as well as within areas over the high seas;

Whereas Annex 12 to the Convention specifies that those portions of the high seas where search and rescue services will be provided shall be determined on the basis of regional air navigation agreements, which are agreements approved by the Council usually on the advice of regional air navigation meetings;

Whereas Annex 12 to the Convention recommends that search and rescue regions should, insofar as practicable, be coincident with corresponding flight information regions and, with respect to those areas over the high seas, maritime search and rescue regions;

Whereas Article 69 of the Convention specifies that, if the Council is of the opinion that the air navigation services of a Member State are not reasonably adequate for the safe operation of international air services, present or contemplated, the Council shall consult with the State directly concerned, and other States affected, with a view to finding means by which the situation may be remedied, and may make recommendations for that purpose; and

Whereas the air navigation services referred to in Article 69 of the Convention include, inter alia, search and rescue services;

The Assembly resolves that:

1. search and rescue regions, whether over States' territories or, in accordance with regional air navigation agreement, over an area greater than a State's sovereign airspace or over the high seas, shall be delimited on the basis of technical and operational considerations, including the desirability of coincident flight information regions, search and rescue regions, and, with respect to areas over the high seas, maritime search and rescue regions, with the aim of ensuring safety, and optimizing efficiency with the least overall cost;

2. States shall ensure the closest practicable cooperation between maritime and aeronautical search and rescue services where they serve the same area and, where practical, establish joint rescue coordination centres to coordinate aeronautical and maritime search and rescue operations;

3. if any search and rescue regions need to extend over the territories of two or more States, or parts thereof, agreement thereon should be negotiated between the States concerned;

4. the providing State in implementing search and rescue services over the territory of the delegating State shall do so in accordance with the requirements of the delegating State, which shall establish and maintain in operation such facilities and services for the use of the providing State as are mutually agreed to be necessary;

5. any delegation of responsibility by one State to another or any assignment of responsibility over the high seas shall be limited to technical and operational functions pertaining to the provision of search and rescue services in the area concerned;

6. remedies to any inadequacies in the provision of efficient search and rescue services, including over the high seas, should be sought through negotiations with States which may be able to give operational or financial assistance in search and rescue operations, with a view to concluding agreements to that effect; and, furthermore, *declares* that:

7. any Member State which delegates to another State the responsibility for providing search and rescue services within its territory does so without derogation of its sovereignty; and

8. the approval by Council of regional air navigation agreements relating to the provision by a State of search and rescue services within areas over the high seas does not imply recognition of sovereignty of that State over the area concerned.

Associated practices

1. Member States should, in cooperation with other States and ICAO, seek the most efficient delineation of search and rescue regions and consider, as necessary, pooling available resources or

establishing jointly a single search and rescue organization to be responsible for the provision of search and rescue services within areas extending over the territories of two or more States or over the high seas.

2. The Council should encourage States whose air coverage of the search and rescue regions for which they are responsible cannot be ensured because of a lack of adequate facilities, to request assistance from other States to remedy the situation and to negotiate agreements with appropriate States regarding the assistance to be provided during search and rescue operations.

APPENDIX I

Coordination and cooperation of civil and military air traffic

Whereas the airspace is a resource common to both civil and military aviation, and given that many air navigation facilities and services are provided and used by both civil and military aviation;

Whereas the Preamble of the *Convention on International Civil Aviation* stipulates that signatories thereto had "agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically";

Whereas Article 3 a) of the Convention states that "This Convention shall be applicable only to civil aircraft, and shall not be applicable to state aircraft" and Article 3 d) requires that "contracting States undertake, when issuing regulations for their state aircraft, that they will have due regard for the safety of navigation of civil aircraft";

Recognizing that growing civil air traffic and mission-oriented military air traffic would benefit greatly from a more flexible use of airspace used for military purposes and that satisfactory solutions to the problem of cooperative access to airspace have not evolved in all areas;

Whereas the flexible use of airspace by both civil and military air traffic may be regarded as the ultimate goal, improvement in civil-military coordination and cooperation offers an immediate approach towards more effective airspace management;

Recalling that the ICAO Global ATM Operational Concept states that all airspace should be a usable resource, any restriction on the use of any particular volume of airspace should be considered transitory, and all airspace should be managed flexibly; and

Whereas the application of reduced vertical separation minimum (RVSM) provides many benefits including additional airspace capacity, cost savings and reduced environmental impacts, it is predicated upon stringent aircraft height-keeping performance requirements, which can be impaired by even minor airframe modifications;

The Assembly resolves that:

1. the common use by civil and military aviation of airspace and of certain facilities and services shall be arranged so as to ensure the safety, regularity and efficiency of civil aviation as well as to ensure the requirements of military air traffic are met;

2. the regulations and procedures established by Member States to govern the operation of their State aircraft over the high seas shall ensure that these operations do not compromise the safety, regularity and

efficiency of international civil air traffic and that, to the extent practicable, these operations comply with the rules of the air in Annex 2;

3. the Secretary General shall provide guidance on best practices for civil-military coordination and cooperation;

4. Member States may include, when appropriate, representatives of military authorities in their delegations to ICAO meetings; and

5. ICAO serves as an international forum that plays a role in facilitating improved civil-military cooperation, collaboration and the sharing of best practices, and to provide the necessary follow-up activities that build on the success of the Global Air Traffic Management Forum on Civil/Military Cooperation (2009) with the support of civil-military partners.

Associated practices

1. Member States should as necessary initiate or improve the coordination and cooperation between their civil and military air traffic services to implement the policy in Resolving Clause 1 above.

2. When establishing the regulations and procedures mentioned in Resolving Clause 2, the State concerned should coordinate the matter with all States responsible for the provision of air traffic services over the high seas in the area in question.

3. Member States should review existing practices to ensure that approval of State aircraft to operate in airspace where reduced vertical separation minimum (RVSM) is applicable is conducted either in compliance with, or in a manner equivalent to, associated height-keeping performance requirements and account for any subsequent airframe modifications. Furthermore, to the maximum extent practicable, Member States should facilitate the participation of applicable State aircraft in technical height-monitoring programmes to ensure continued compliance with such performance requirements, so as to implement the policy mentioned in Resolving Clauses 1 and 2 above.

4. The Council should ensure that the matter of civil and military coordination and cooperation in the use of airspace is included, when appropriate, in the agenda of divisional and regional meetings, in accordance with Resolving Clauses 3, 4 and 5 above.

APPENDIX J

The provision of adequate aerodromes

Whereas major improvements to the physical characteristics of aerodromes are required at many locations;

Whereas in certain cases these improvements will involve considerable outlay and it would be inadvisable to plan such work without taking into account future developments;

Whereas States and aerodrome authorities will continue to need to know the general trends in aerodrome requirements which succeeding generations of aircraft will most likely produce;

Whereas many serious problems can be avoided if the operating requirements of new aircraft are such as to permit them to operate economically without further demands on the physical characteristics of aerodromes; *Whereas* the operation of aerodromes has many advantages, environmental considerations have imposed limitations upon the operation of aircraft at some locations. In view of the capacity problems currently experienced globally, account should be taken of the introduction into service of newer quieter aircraft;

Whereas there is a growing trend for aerodromes to be operated by autonomous entities, the obligation of States to ensure safe aerodrome facilities and services remains unaffected; and

Whereas aerodrome certification is an essential means to ensure aerodrome safety and enhance efficiency, and that the results of the ICAO Universal Safety Oversight Audit Programme (USOAP) audits suggest that the level of implementation of aerodrome certification, including safety management systems (SMS), is not yet optimal;

The Assembly resolves that:

1. the technical requirements for aerodromes shall be kept under review by ICAO;

2. there is a need for future generations of aircraft to be designed so that they are capable of being operated efficiently, and with the least possible environmental disturbance, from aerodromes used for the operation of present-day aircraft;

3. States should take necessary measures, including the allocation of adequate resources, to improve the level of implementation of aerodrome certification, including SMS at aerodromes; and

4. States should place greater emphasis on the management of aerodrome operations, with runway safety given a high priority.

Associated practices

1. In light of the results of the continuing review mentioned in Resolving Clause 1 above, the Council, taking into account the requirement to improve still further existing safety levels and efficiency, should:

   a) develop additional guidance material on future developments;

   b) develop procedures for the management of aerodrome operations; and

   c) keep Member States informed of developments.

2. The Council should continue to draw the attention of aircraft manufacturers and operators to the policy expressed in Resolving Clause 2.

APPENDIX K

Adequate conditions of employment for aviation ground personnel

Whereas conditions of employment that do not correspond to the qualifications and responsibilities of aviation ground services personnel constitute a major cause of difficulty in recruiting suitably qualified personnel and retaining them after completion of the training; and

Whereas this difficulty is impeding the satisfactory implementation of Regional Plans, SARPs and PANS;

The Assembly resolves that States should take the necessary steps to ensure that conditions of employment for personnel in the aviation ground services should be commensurate with the qualifications required and the responsibility carried by them.

APPENDIX L

Participation by States in the technical work of ICAO

Whereas the technical contributions of Member States are essential to attain satisfactory progress in the technical work of ICAO;

Whereas difficulties are from time to time experienced in obtaining prompt and adequate contributions from Member States to the technical work of ICAO; and

Whereas it is necessary to ensure that maximum benefit is obtained from this participation without imposing an undue burden on Member States and ICAO;

The Assembly resolves that there is a need for effective technical contributions from Member States to the technical work of ICAO.

Associated practices

1. The Council should encourage effective participation by Member States in the technical work of ICAO, paying due regard to the need to minimize the cost to ICAO and Member States of such participation.

2. Insofar as each may find it practicable, Member States should:

   a) assist, by correspondence, in advancing ICAO technical projects;

   b) attend ICAO meetings and participate actively in pre-meeting preparations, particularly by presenting advance documentation containing either specific proposals relative to items of the agenda or their views on documentation submitted to them;

   c) participate in ICAO panel activities and ensure that their nominees are suitably qualified and are able to contribute effectively to the panel work;

   d) undertake specialized studies as requested by ICAO; and

   e) assist ICAO in its technical work through any other means the Council may devise.

APPENDIX M

The Headquarters' and Regional Offices' technical Secretariat

Whereas there is a continuing need to provide effective assistance to Member States in the implementation of Regional Plans, SARPs, PANS and SUPPS;

Whereas it is important that the technical Secretariat of Headquarters and the Regional Offices is effectively used to provide assistance to Member States in their implementation problems; and

Whereas it is important that, for the proper execution of their tasks, the members of the technical Secretariat of Headquarters and the Regional Offices are enabled to maintain their technical proficiency and are kept adequately informed of the latest developments in their particular fields;

The Assembly resolves that:

1. the resources of the Headquarters' and Regional Offices' technical Secretariat shall be effectively deployed to provide optimum assistance to Member States with their problems relating to continuous monitoring activities, the implementation of Regional Plans, SARPs, PANS and SUPPs; and

2. the members of the Headquarters' and Regional Offices' technical Secretariat shall be enabled to maintain their technical proficiency and to keep adequately informed on the latest technical developments.

Associated practices

1. The members of the Headquarters' and Regional Offices' technical Secretariat should be enabled to carry out frequent visits of adequate duration when such visits are necessary or are requested by Member States to assist them with their implementation problems.

2. To the maximum practicable extent, temporary assignment of specialized personnel from one Regional Office to another and from Headquarters to the Regional Offices should take place when temporary reinforcement in the Regional Offices is required.

3. The members of the Headquarters' and Regional Offices' technical Secretariat should be enabled to keep adequately up to date in their particular fields by, inter alia, attendance at selected technical meetings, visits to research and development organizations, witnessing trial applications, and evaluation of new equipment and techniques. However, such visits should not be allowed to take priority over the primary function of the Secretariat to serve ICAO and its several deliberative bodies. Furthermore, the travelling on such visits should be integrated as far as possible with travel necessary for the performance of other ICAO duties.

APPENDIX N

Cooperation among Member States in investigations of aircraft accidents

Whereas it is incumbent on the State in which an accident occurs to institute an inquiry into the circumstances of the accident in conformity with Article 26 of the Convention;

Whereas owing to the growing sophistication and complexity of modern aircraft, the conduct of an accident investigation may require participation by experts from many specialized technical and operational fields and access to specially equipped facilities for investigation;

Whereas many Member States do not have such specialized technical and operational expertise and appropriate facilities;

Whereas it is essential for flight safety and accident prevention that accidents be thoroughly investigated and reported and that the effectiveness of the investigations should not be unduly hampered by considerations of cost;

Whereas the costs of salvage and investigation of major aircraft accidents may place a heavy financial burden on the resources of the State where the accident occurred; and

Mindful of the publication of the ICAO *Manual on Regional Accident and Incident Investigation Organization* (Doc 9946);

The Assembly resolves to recommend that Member States cooperate in the investigation of aircraft accidents, especially accidents in which the investigation requires highly specialized experts and facilities and that to this end Member States and Regional Accident and Incident Investigation Organizations (RAIOs), to the extent possible, inter alia:

a) provide, on request by other Member States, expert assistance and facilities for the investigation of major aircraft accidents; and

b) afford opportunity to Member States seeking investigation experience to attend investigations of aircraft accidents, in the interest of developing and furthering investigation expertise.

Associated practices

1. Member States are encouraged to support the convening of regional accident investigation workshops with a view to exchanging information on each State's investigation legislation and procedures, on the sharing of knowledge and expertise in investigation management and techniques, on the availability of experts and facilities and on practices in dealing with encountered accident investigation difficulties.

2. Member States should be encouraged to facilitate the participation of investigators of accident investigation authorities as observers in investigations in other States for training purposes and orientation visits.

3. Member States and RAIOs are encouraged to assess their needs and capabilities in the field of aircraft accident investigation and prevention with a view to developing training curricula for basic accident investigation and prevention courses. The use of regional training centres for such courses should be fully explored as well as the incorporation of the TRAINAIR PLUS methodology which provides for internationally standardized and competency-based training.

4. Member States are encouraged to refer to the model Memorandum of Understanding (MOU) developed by ICAO in 2007 for use by States to encourage mutual cooperation during the investigation of aircraft accidents and serious incidents. The model MoU is available on the ICAO public website.

5. Member States are encouraged to consider, as necessary, the ICAO *Manual on Regional Accident and Incident Investigation Organization* (Doc 9946) which provides guidance on how to establish and manage a regional accident and incident investigation system within a region or subregion.

APPENDIX O

Human performance

Whereas the aims and objectives of ICAO as laid down by the Chicago Convention provide for fostering the development of international air transport ". . . so as to . . . promote safety of flight in international air navigation";

Whereas it is recognized that human performance, as influenced by physiological and cognitive capabilities and constraints, contributes significantly to the overall safety performance of the aviation system;

Whereas it is recognized that the safety and efficiency benefits associated with new technologies, systems and procedures can only be realized when they are designed to enhance the performance of the individuals who use them; and

Whereas it is recognized that implementation of the future aviation systems will result in changes in roles for aviation professionals requiring work across multidisciplinary teams to support collaborative decision-making;

The Assembly resolves that:

1. Member States ensure the integration of human performance considerations in the planning, design, and implementation of new technologies, systems and processes as part of a safety management approach;

2. Member States promote and facilitate the integration of human performance elements within competency-based training programmes throughout the career of a professional; and

3. Member States include strategies which promote safe, consistent, efficient and effective operational performance of the individual and across teams of individuals to address safety priorities.

4. Member States and ICAO should promote safety in an increasingly digital flight deck environment by addressing the human performance implications of data-intensive systems, by:

a) fostering human-centered design principles for flight deck systems and interfaces that mitigate information overload and prevent cognitive fatigue;

b) ensuring that pilot training and competency frameworks, including evidence-based training, incorporate the skills required to manage complex digital information effectively and mitigate automation-related risks; and

c) encouraging the integration of risks associated with human-machine interaction and cognitive load into State safety programmes (SSPs) and operators' safety management systems (SMS).

Health promotion and mental wellbeing

24.13 The Commission reviewed A42-WP/167, presented by Australia and Canada and co-sponsored by New Zealand; and A42-WP/334, presented by ITF, IFALPA and IFATCA. The Commission recognized the importance of implementing peer support programmes (PSPs) for aviation licence holders and safety -sensitive workers and encouraged collaboration between all aviation stakeholders within States to implement PSPs, while advising caution against linking PSPs to medical certification. The Commission also noted the work by relevant expert groups in ICAO to include PSP

guidance material in the revised *Manual on the Prevention of Problematic Use of Substance in the Aviation Workplace* (Doc 9654) and a forthcoming new Manual on Health Promotion and Mental Wellbeing, both scheduled for publication in 2026. The Commission agreed that the contents of the working papers should be referred to the relevant expert groups for their consideration.

24.14 The Commission reviewed A42-WP/232, presented by Australia and co-sponsored by New Zealand, recognized the value of including national preventive activities in aviation medical examinations, and encouraged the development of amendments to the ICAO SARPs to support health promotion, preventive activities and screening for safety-relevant conditions. The Commission also noted the upcoming ICAO Manual on Health Promotion and Mental Wellbeing, which will include relevant guidance material on the inclusion of preventive activities and screening for safety -relevant conditions. The Commission agreed that the content of the working paper should be referred to the relevant expert groups for their consideration.

24.15 The Commission reviewed A42-WP/403, presented by Kazakhstan, and recognized the importance of mental health for aviation security personnel engaged in critical aviation security functions in maintaining aviation security effectiveness. The Commission further supported the development of global guidance for mental health risk assessment by the relevant expert groups, noting the exclusion of a requirement for psychological or mental health screening to be performed by aviation medical examiners.

Data-based risk management and decision-making in aviation medicine

24.16 The Commission reviewed A42-WP/291, presented by Canada and co-sponsored by Australia, New Zealand and United Kingdom, requesting relevant expert groups to define and collect a core set of essential data related to pilot licensing and medical fitness to advance evidence-based decision-making in the development of ICAO SARPs. The Commission supported the paper and encouraged Member States to participate in standardized data collection and data submission, consistent with applicable State requirements to improve data quality and enhance data analysis to ensure evidence-based amendments to ICAO SARPs. The Commission agreed that the content of the working paper should be referred to the relevant expert groups for their consideration.

24.17 The Commission reviewed A42-WP/344 presented by Kazakhstan, proposing the development of a global framework or guidance material for managing inflight passenger health emergencies. Acknowledging the ongoing work within the relevant expert groups and the need for reliable data, the Commission agreed to refer the contents of this paper to the appropriate expert groups.

24.18 The Commission discussed A42-WP/383, presented by China, acknowledging the rapid development of the aviation sector and the need to adopt a full-cycle multi-disciplinary risk-based aviation health management system, based on SMS principles. The Commission supported the development of guidance to assist Member States and aviation stakeholders to implement such a system, and to evaluate the effectiveness of aviation health management. The Commission also recalled Assembly Resolution A41-12, Clause 5 regarding the development of an Aviation Health Management Plan.

24.19 The Commission reviewed A42-WP/349, presented by IATA, which proposed to raise the multi-pilot commercial air transport pilot age limit to 67 years, provided that another pilot is under 65. The Commission supported continuing work on pilot age limits and acknowledged that the current medical science is inconclusive regarding the increase in upper age limit. It recognized the diverse State practices and capacities, data challenges and deficiencies identified in the age survey and discussed in the Air Navigation Commission. The ongoing work within ICAO regarding harmonization of data collection and analysis was further noted. The Commission expressed, broad support for efforts to enhance data generation and collection, as well as for strengthening the aviation medical system in alignment with the No Country

Left Behind initiative, and in a manner that could safely support consideration for a future increase in the age limit. The Commission further urged States and aviation stakeholders to support ICAO in these activities and agreed that the content of the working paper should be referred to the relevant expert groups for their consideration.

24.20 Information papers provided by China (A42-WP/597), India (A42-WP/214), United Arab Emirates (A42-WP/613) and ITF (A42-WP/501) were noted.

Dangerous goods and safety management

24.21 The Commission reviewed A42-WP/251, presented by the Republic of Korea, which emphasized the need for global efforts to manage increasing fire risks associated with lithium batteries in aircraft cabins. The paper highlighted regulatory changes that were made by the State following a cabin fire, likely caused by a lithium battery in thermal runaway, that led to the loss of the aircraft. The Commission supported the actions in the paper and agreed on the need for global harmonization of provisions. It recognized the importance of balancing prompt action to address safety risks with a need for timely coordination among States to support harmonized regulatory changes. It also recognized the importance of effective crew training to respond to a lithium battery incident. It acknowledged that expert groups were working on the issues raised and noted that the content of the working paper would be forwarded to them.

24.22 The Commission discussed A42-WP/259, presented by Oman, Singapore, Bolivia (Plurinational State of), IFALPA, ITF and CANSO, and co-sponsored by the Dominican Republic, ACI, IFATCA, IAC, IATA and ICCAIA on positive safety culture. The Secretariat noted that the *Safety Management Manual (SMM)* (Doc 9859) includes a dedicated chapter on safety culture which is being enhanced for the upcoming fifth edition. The Secretariat also highlighted that the Safety Management Implementation (SMI) website (www.icao.int/SMI), launched in 2018, supports the sharing of practical examples and invited States and industry to further share their best practices with the rest of the community. Capacity-building activities, such as training, are updated to reflect the latest guidance material, depending on the availability of resources. The Commission supported the actions in the paper with particular emphasis on recognizing the importance of strong, sustained and demonstrated commitment from senior leadership and capacity-building activities for fostering a positive safety culture. Some examples of tools and guidance on this topic were highlighted that could support the development of enhanced ICAO guidance. The Commission agreed that the content of the working paper should be referred to the relevant expert groups for their consideration.

24.23 Information papers provided by Bangladesh (A42-WP/523), Bolivia (Plurinational State of) (A42-WP/342), China (A42-WP/193 and 624), Peru, supported by LACAC Member States [*] (A42-WP/418), Saudi Arabia (A42-WP/84 and A42-WP/221), and Venezuela (Bolivarian Republic of), co-sponsored by LACAC Member States[†] (A42-WP/273 and A42-WP/352) were noted.

Licencing and training

24.24 The Commission reviewed A42-WP/187, presented by the United Arab Emirates, which promoted electronic personnel licences for more efficient and secure cross-border validation of aviation professionals' privileges; and A42-WP/261, Revision No. 1, presented by Brazil, which highlighted the

[*] Belize, Bolivia (Plurinational State of), Chile, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Uruguay and Venezuela (Bolivarian Republic of).

[†] Belize, Bolivia (Plurinational State of), Colombia, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Panama, Paraguay and Uruguay.

implications and considerations to be considered when building a fully digitalized licensing system. The Commission, noting the ongoing work in the Organization, expressed broad support for the digitalization of aviation licences, documents and certificates. The Commission expressed caution about the digitalization of aviation documents and interconnected databases, outlining risks related to the security and privacy of data and agreed that the content of the working paper should be referred to the relevant expert groups for their consideration.

24.25 The Commission reviewed A42-WP/220, presented by Costa Rica on behalf of the COCESNA Member States[*], which recommended the establishment and implementation of a procedure for automatic validation of airline transport pilot licences among COCESNA Member States and the development of related guidance material. The Commission noted that additional implementation support activities provided by ICAO would be beneficial. The Commission noted the need to maintain flexibility by the State in the automatic validation process. The Commission agreed that the content of the working paper should be referred to the relevant expert groups for their consideration.

24.26 The Commission reviewed A42-WP/311, presented by Kazakhstan, which recommended the development of common examination question databases for pilots, air traffic controllers (ATCOs) and aircraft maintenance engineers (AMEs). The Commission noted that the method of demonstration of knowledge is the responsibility of the State. The Commission expressed the need to maintain flexibility in aviation personnel knowledge examination to allow for specific national and regional considerations. The Commission agreed that the content of the working paper should be referred to the relevant expert groups for their consideration.

24.27 The Commission reviewed A42-WP/318, presented by Kazakhstan, which recommended the development of global guidance for standardized psychometric assessments in pilot licensing, and A42-WP/417, presented by Argentina, which proposed to optimize selection processes for air traffic controllers based on recent research. The Commission noted that the review of training and licensing provisions and guidance for such personnel is included in the work programme of the Organization. The Commission expressed concerns over the use of assessment of personality traits due to its subjectivity, in the absence of a clear relationship with required competencies, and mindful that such assessment would be impacted by various factors. The Commission therefore agreed to bring the content of these working papers to the attention of relevant expert groups.

24.28 The Commission reviewed A42-WP/327, presented by Kazakhstan, which recommended developing global standards and technical specifications for interoperable aviation personnel certificate verification systems. The Commission agreed in principle but cautioned on suitable protection of personal data on interconnected databases and expressed concerns on the resources necessary to implement such systems. The need for a phased implementation approach was also highlighted. The Commission noted the ongoing work by the Organization and agreed that the content of the working paper should be referred to the relevant expert groups for their consideration.

Flight operations and maintenance

24.29 The Commission reviewed A42-WP/228, presented by the African Civil Aviation Commission (AFCAC) on behalf of African States[†], acknowledged ICAO's ongoing work on mutual

[*] Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua

[†] Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

recognition and the reduction of approved maintenance organizations (AMO) surveillance activities, and called for accelerated efforts towards the development of harmonized guidance to ease regulatory burdens without compromising safety. The need for suitable transition periods for any changes was also highlighted. The Commission, noting the existing work, expressed support and agreed that its content be referred to the relevant expert groups.

24.30 The Commission reviewed A42-WP/297, presented by Kazakhstan, which emphasized the need for ICAO to update and modernize airworthiness regulations to keep pace with emerging aviation technologies such as electric vertical take-off and landing (eVTOLs), artificial intelligence (AI)-driven systems, and on -demand flight services. The Commission noted the call for flexible certification processes and real-time oversight models, supported by collaboration among regulators, industry, academia, and standards making organizations (SMOs), to ensure the safe and efficient integration of next-generation aviation platforms. The Commission further noted the ongoing work by ICAO regarding aircraft not classified under Annex 7 — *Aircraft Nationality and Registration Marks* and agreed that its content should be referred to the relevant expert groups for further consideration.

24.31 The Commission reviewed A42-WP/85, presented by Saudi Arabia, which highlighted the need for harmonization across ICAO documentation concerning the naming conventions and minima labelling for instrument landing system (ILS) Category II and III (CAT II/III) approach charts. The Commission noted that inconsistencies have led to varying implementation practices across States, potentially impacting operational clarity, chart usability and safety. The Commission agreed to refer the proposed action to the Council for further consideration, taking into account existing priorities funded through the 2026-2028 Budget and extra budgetary contributions.

24.32 The Commission reviewed A42-WP/442, presented by Venezuela (Bolivarian Republic of), which highlighted the impact of climate change and the challenge that it posed to global air navigation, emphasizing the importance of adapting and implementing sustainable strategies. The Commission, noting that the criteria in the *Procedures for Air Navigation Services — Aircraft Operations* (PANS-OPS, Doc 8168), Volume II — *Construction of Visual and Instrument Flight Procedures* account for temperature and wind correction in Baro V-NAV procedures, agreed that the content of the working paper be referred to the relevant expert group for consideration.

24.33 The Commission reviewed A42-WP/465, presented by the Dominican Republic, relating to the use of transitions to complement standard instrument arrivals in PANS-OPS (Doc 8168), Volume II. The Commission noted the ongoing work of ICAO concerning this proposal and agreed that the content of the working paper be referred to the relevant expert group for further consideration.

24.34 Information papers provided by El Salvador on behalf of the COCESNA Member States[*] (A42-WP/457), India (A42-WP/216 and A42-WP/534), IFALDA (A42-WP/621), IFALPA, ITF and IFATCA (A42-WP/521), and IFATSEA (A42-WP/455) were noted.

Air traffic management (ATM) and search and rescue (SAR)

24.35 The Commission reviewed A42-WP/188, presented by Japan and co-sponsored by the United States, which outlined the benefits of the North Pacific Air Route design, and highlighted data link connectivity issues affecting the reliability of the 23 NM lateral separation Standard. The Commission recognized the importance of data link services reliability for the safe and expanded application of reduced separation Standards, as well as the benefit of globally harmonized response procedures in the event of data link failures. The Commission agreed to refer the proposed action to the Council for further consideration,

[*] Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

taking into account existing priorities funded through the 2026-2028 Budget and extra budgetary contributions.

24.36 The Commission reviewed A42-WP/18, presented by Oman and the United Arab Emirates, which highlighted the need for a global and comprehensive cross-regional airspace optimization strategy over the high seas to enhance safety, capacity and efficiency. The Commission, recognizing the urgency of cross-regional airspace optimization, encouraged States and air navigation services providers (ANSPs) to engage in cross-regional collaboration and active data sharing. The Commission further encouraged the establishment of joint cross-regional task forces under the PIRGs framework to expedite and facilitate the implementation of airspace optimization projects such as free route airspace (FRA), direct routing and Project 30/10.

24.37 The Commission reviewed A42-WP/225, presented by Denmark on behalf of the European Union (EU) and its Member States[*], the other Member States[†] of the European Civil Aviation Conference (ECAC), and by EUROCONTROL, which highlighted the need for a more dynamic, cost-effective and adaptable approach to air traffic management (ATM) modernization. The Commission recognized that a modern, data-driven, service-oriented architecture (SOA) holds the prospect of accelerating innovation in ATM service provision. The Commission agreed on the benefit of using the existing framework on innovation for its development. Noting ongoing review of the evolution of ATM service delivery management as part of the update to the *Global ATM Operation Concept* (Doc 9854), the Commission agreed that the content of the working paper be referred to the relevant expert groups for further consideration with a view to incorporating the proposed new ATM service model into a future edition of the GANP as well as in Doc 9854.

24.38 The Commission reviewed A42-WP/336, presented by IATA, IFALPA and IFATCA, which highlighted the need for a harmonized and consistent global implementation of the flight and flow – information for a collaborative environment (FF-ICE) services. The Commission reiterated the importance of a globally harmonized approach for the implementation of FF-ICE and noted that the forthcoming second edition of the *Manual on Flight and Flow — Information for a Collaborative Environment (FF-ICE)* (Doc 9965) would facilitate such harmonization. The Commission also supported the development of a comprehensive FF-ICE roadmap, including key enablers such as SWIM, as well as the provision of relevant airspace constraints and detailed digital meteorological information. Noting the ongoing work of ICAO concerning AN-Conf/14 Recommendation 3.2/2 - Transition to FF-ICE and Cessation of FPL2012, the Commission agreed that the content of the working paper be referred to the relevant expert groups for further consideration.

24.39 The Commission reviewed A42-WP/400, presented by Jordan on behalf of the ACAO Member States[‡], concerning the position of the Arab States regarding the feasibility study of establishing an ICAO air navigation efficiency programme. The Commission recalled that the programme was intended to assist States in assessing the efficiency of their air navigation system in accordance with the applicable ICAO provisions, and that engagement with service providers takes place through the appropriate State authorities. The Commission also recalled that the scope, format and modalities of the programme remain subject to the feasibility study, as reflected in AN-Conf/14 Recommendation 3.1/2 and the related section of the Conference report. The Commission noted that the implementation of this recommendation had been

[*] Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy,Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

[†] Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, North Macedonia, Norway, San Marino, Serbia, Switzerland, Türkiye, Ukraine and the United Kingdom.

[‡] Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, the United Arab Emirates, Yemen.

approved, subject to the availability of extra budgetary resources. The Commission, while acknowledging the concerns raised and challenges associated with the potential establishment of a global audit programme of air navigation efficiency, reiterated the need for a programme to support States, upon request, in assessing the efficiency and performance of their air navigation systems.

24.40 The Commission reviewed A42-WP/197, presented by the United Arab Emirates, which highlighted challenges regarding timely cross-border emergency response and the impact on these of written search and rescue agreements. The Commission recognized the challenges faced by some States in concluding search and rescue (SAR) agreements and noted that the matter was within the scope of the existing ICAO work programme and was addressed by the forthcoming edition of the *International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual* (Doc 9731). The Commission agreed on the need to review the evidence required when assessing effective implementation related to coordination between search and rescue organizations within the framework of USOAP CMA activities.

24.41 The Commission reviewed A42-WP/331, presented by the International Satellite System for Search and Rescue (International Cospas-Sarsat Programme) and co-sponsored by Kenya and Saudi Arabia, which highlighted the differences between traditional emergency locator transmitters (ELTs) and the new ELT for distress tracking (ELT(DT)). Noting the potential burden that could be imposed by inadvertent activation of the ELT(DT), the Commission urged Member States to mitigate non-distress activations of ELT(DT)s through coordinated efforts from civil aviation authorities, airline operators, aircraft manufacturers and maintenance facilities.

24.42 The Commission reviewed A42-WP/494, presented by Cuba and supported by the LACAC Member States[*], which highlighted the potential benefit of establishing a mandatory requirement to report the airborne collision avoidance system (ACAS) operational status as a measure to mitigate the risk of mid-air collisions (MAC). The Commission, while acknowledging the potential safety benefit of enhanced situational awareness from having information on ACAS operational status, expressed reservations regarding the development of global provisions without a clearly defined operational need, and recognized the potential for additional burdens on air traffic controllers and flight crews. The Commission agreed to refer the proposed action to the Council for further consideration, taking into account existing priorities funded through the 2026-2028 Budget and extra budgetary contributions.

Space transport operations

24.43 On the subject of the safe integration of space transport operations (STO) in airspace, the Commission reviewed A42-WP/443, presented by Cuba and supported by LACAC Member States[†]; A42-WP/351, presented by Chile and supported by 18 LACAC Member States[‡]; A42-WP/226, presented by Denmark on behalf of the EU and its Member States[§], the other Member States[**] of ECAC, and by EUROCONTROL; and A42-WP/289 presented by the United States.

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[*] Belize, Bolivia (Plurinational State of), Chile, Colombia, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of).

[†] Belize, Bolivia (Plurinational State of), Chile, Colombia, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Paraguay, Peru, Uruguay, and Venezuela (Bolivarian Republic of).

[‡] Argentina, Belize, Bolivia (Plurinational State of), Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of).

[§] Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

[**] Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, North Macedonia, Norway, San Marino, Serbia, Switzerland, Türkiye, Ukraine and the United Kingdom.

24.44 The Commission, while recognizing the increasing frequency and scale of STO traffic, noted that the matter was within the scope of the existing ICAO work programme. It requested ICAO to expedite the implementation of AN-Conf/14 Recommendation 3.1/6 – *Addressing the safe integration of space transport operations into the airspace system* and further invited ICAO to consider convening a task force to support this objective. The Commission also welcomed the updating of the Memorandum of Understanding between the United Nations Office of Outer Space Affairs (UN OOSA) and ICAO to reflect new areas of joint cooperation, particularly in coordinating on the airspace integration of space operations, and noted initiatives taken by UN OOSA.

24.45 The Commission recalled that AN-Conf/14 had determined "that space vehicles do not meet the definition of 'aircraft' and, consequently, the airspace integration of such operations should be managed in separate workstreams" (the *Fourteenth Air Navigation Conference* (AN-Conf/14, Doc 10209), paragraph 3.14, refers). The Commission encouraged States to engage in bilateral and, where appropriate, multilateral efforts to enhance the safe integration of space operations in airspace and reiterated the continued importance for ICAO to engage with other relevant United Nations entities on this matter.

24.46 The Commission reviewed A42-WP/82, presented by the United Arab Emirates, which highlighted the challenges that space debris presents to aviation. While recognizing the importance of improving the quality and reliability of information on space debris, the Commission noted concern about the premature development of procedures for airspace management and response to high-uncertainty re-entry events. The Commission welcomed the call in the paper for Member States to share their experiences and best practices related to space debris re-entry.

24.47 Information papers concerning ATM, SAR and STO provided by China (A42-WP/159, Revision No.1 and A42-WP/626), Colombia (A42-WP/428), Dominican Republic (A42-WP/238, A42-WP/284, A42-WP/426), India (A42-WP/326), Oman (A42-WP/60 and A42-WP/63, Revision No. 1), Saudi Arabia (A42-WP/94, A42-WP/106 and A42-WP/213), Türkiye (A42-WP/628), United States (A42-WP/615 and A42-WP/617) and IFALDA (A42-WP/623) were noted.

Aerodrome operations and obstacle limitation surfaces

24.48 The Commission reviewed A42-WP/135, presented by China, which emphasized the need for total airport management (TAM) involving comprehensive management of flights, passengers, baggage and ground transportation across airside, landside and the integrated ground transportation centre. The Commission agreed that the content of the working paper be referred to relevant expert groups for further consideration

24.49 The Commission reviewed A42-WP/231, presented by China and co-sponsored by Egypt, calling for guidance material and SARPs to ensure quality management of sustainable aviation fuel (SAF), which has growing application around the world to achieve energy conservation, carbon reduction and green development of civil aviation. The Commission noted that the *Manual on Civil Aviation Jet Fuel Supply* (Doc 9977) was being reviewed and updated. The Commission, while acknowledging the need to review and update the guidance material, did not agree on the development of SARPs related to quality management of SAF. The Commission agreed that the content of the working paper be referred to relevant expert groups for further consideration of guidance material.

24.50 The Commission reviewed A42-WP/227, presented by AFCAC on behalf of African States[*], calling for enhanced oversight, guidance and technical support in the aerodrome emergency planning domain. The Commission noted that the *Airport Services Manual* (Doc 9137), Part 7 (Airport Emergency Planning) was being reviewed and updated. The Commission acknowledged the need for technical support in this domain and agreed that the content of the working paper be referred to relevant expert groups for further consideration.

24.51 The Commission reviewed A42-WP/229, presented by the Republic of Korea and co-sponsored by ACI and IAC, which called for standardized technical specifications and operational guidance for avian radars at aerodromes. The Commission agreed that the content of the working paper be referred to the relevant expert groups for further consideration.

24.52 The Commission reviewed A42-WP/314, presented by Kazakhstan and co-sponsored by IAC, calling for guidance material to support the safe, standardized and effective integration of AI technologies into aerodrome safety monitoring systems. The Commission acknowledged the need for integrating AI technologies into aerodrome safety monitoring systems. However, views were expressed regarding the desirability of a high-level framework to be developed by a study group before such integration. The Commission agreed that the content of the working paper be referred to the relevant expert groups for further study.

24.53 The Commission reviewed A42-WP/212, presented by Singapore and co-sponsored by Republic of Korea and ACI; and A42-WP/208, presented by AFCAC on behalf of African States[†]. The Commission noted the ongoing ICAO initiatives to provide implementation support on the new ICAO provisions related to obstacle limitation surface (OLS) through training, guidance material, regional seminars and a dedicated website with tools. The Commission acknowledged that the implementation of new OLS provisions is a major undertaking for States with many aerodromes and urged States to utilize ICAO's implementation support initiatives.

Aerodrome infrastructure and certification

24.54 The Commission reviewed A42-WP/155, presented by Morocco, which highlighted the disruptions and damage caused by natural disasters to aeronautical infrastructure. The Commission, while acknowledging the need for guidance material and sharing of best practices to ensure resilience of aeronautical infrastructure, raised concerns on developing SARPs on this topic. The Commission agreed that the content of the working paper be referred to the relevant expert groups for further consideration.

24.55 The Commission reviewed A42-WP/260, presented by Iran (Islamic Republic of), which highlighted the challenges and opportunities associated with implementing a preventive pavement maintenance framework. The Commission recognized the advantages and challenges of applying

[*] Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

[†] Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

preventive pavement maintenance, and agreed that the content of the working paper be referred to the relevant expert groups for further study.

24.56 The Commission reviewed A42-WP/358, presented by ACI and Ethiopia and cosponsored by the Dominican Republic, which highlighted the challenges faced by States and aerodrome operators in achieving and maintaining aerodrome certification. The Commission agreed on the need for coordinated efforts in supporting States and aerodrome operators to further improve implementation of aerodrome certification. The Commission noted the challenges in developing guidance material enabling States to assess the relevance of transposing ICAO Recommended Practices into national regulations without contradicting Assembly Resolution A39-22. The Commission also noted that regional organizations would be better equipped to address specific challenges associated with aerodrome certification and that the *Procedures for Air Navigation Services (PANS) — Aerodromes* (PANS-Aerodromes, Doc 9981) contains provisions on aerodrome certification, safety assessment and aerodrome compatibility study. The Commission agreed that the content of the working paper be referred to relevant expert groups to identify the need and scope of the work.

24.57 The Commission reviewed A42-WP/445, presented by Argentina and supported by Belize, Bolivia (Plurinational State of), Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Peru and Uruguay, requesting ICAO to develop harmonized criteria and applicability conditions to ensure that approach lighting infrastructure effectively contributes to pilots' decision-making. The Commission agreed that the content of the working paper be referred to the relevant expert groups for further consideration.

24.58 The Commission reviewed A42-WP/464, presented by Argentina and supported by Belize, Bolivia (Plurinational State of), Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Peru and Uruguay, which suggested to adapt the design of runway strips and runway end safety areas (RESAs) based on the type of operation, the direction of runway-in-use, and the type of approach procedure. The Commission raised concerns that variable provisions on runway strips and RESAs may result in inconsistencies and therefore agreed that the content of the working paper be referred to the relevant expert groups for further study.

24.59 Information papers provided by Argentina supported by Belize, Bolivia (Plurinational State of), Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Panama, Peru and Uruguay (A42-WP/435, Revision No. 1), India (A42-WP/173, A42-WP/207 and A42-WP/275), Japan (A42-WP/235), Kazakhstan (A42-WP/306 and A42-WP/343) Morocco (A42-WP/203), China (A42-WP/598) and World Bird strike Association (WBA) (A42-WP/583) were noted.

Meteorology and System-Wide Information Management (SWIM)

24.60 The Commission reviewed A42-WP/215, Revision No. 1, presented by Denmark on behalf of the EU and its Member States[*], the other Member States[†] of ECAC and by EUROCONTROL, and co-sponsored by Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Singapore, Somalia, Sudan, Syrian Arab Republic,

[*] Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

[†] Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, North Macedonia, Norway, San Marino, Serbia, Switzerland, Türkiye, Ukraine and the United Kingdom.

Tunisia, United Arab Emirates, Yemen, and IFALPA, which highlighted the significant challenges for aviation caused by the increasing occurrence of hazardous meteorological events (HMEs).

24.61 The Commission expressed broad support for the proposals contained in A42-WP/215, Revision No. 1 and acknowledged the global need for the mitigation of safety risks posed by the HMEs, as well as for the enhancement of the resilience of air navigation operations and infrastructure en-route and in the terminal area against the HMEs. The Commission also agreed on the need to share routine aircraft observations and reports, especially quantitative turbulence information, for free, to enhance atmospheric modelling in order to further improve the safety of all airspace users. The Commission, recalling that there is an ongoing effort led by an ICAO expert group for the development of globally harmonized provision of information on hazardous weather phenomena, referred to as Hazardous Weather Information Service (HWIS), agreed that the content and proposals of the working paper be referred to relevant expert groups for further consideration.

24.62 The Commission reviewed A42-WP/252, presented by Brazil, which highlighted a need for the provision of tropical cyclone advisories for the South Atlantic area to support the safety and efficiency of air navigation and the enhancement of coordination with the World Meteorological Organization (WMO) for future establishment of a new ICAO Tropical Cyclone Advisory Centre (TCAC) in the region. The Commission, while acknowledging that there had been various efforts made by a Brazilian meteorological service provider, noted that WMO's tropical cyclone advisory programme does not cover the western South Atlantic due to the low frequency of tropical cyclones in that area, and that a thorough evaluation of the establishment of a new TCAC for South Atlantic Region would be required, taking into account scientific and technological advice from WMO, and with a view to avoiding any inconsistencies, considering the significant humanitarian and socio-economic impacts tropical cyclones may cause. The Commission therefore agreed that ICAO should further coordinate with WMO on this specific matter.

24.63 The Commission reviewed A42-WP/194, presented by China, which presented their achievements in system-wide information management (SWIM). To prevent fragmentation in SWIM implementation, mitigate associated cost increases and ensure coordinated SWIM operations, the Commission agreed that ICAO develop globally unified guidelines for the assessment of SWIM implementation. The Commission, noting the importance of the globally unique flight identifier (GUFI) for global interoperability, agreed that the relevant expert group consider the need to establish a mechanism for the allocation and usage of GUFI for cross-border flights. The Commission acknowledged the rapid digitalization of the civil aviation system and agreed to refer the proposal for development of standards and specifications for SWIM-based data flow and transaction to the relevant expert group, taking into account existing provisions on information exchange. The Commission encouraged regional and national SWIM groups to support global information exchange through continued collaboration.

24.64 The Commission also reviewed A42-WP/270, presented by CANSO and IFATCA, which identified several challenges associated with SWIM implementation, and highlighted the need to implement SWIM to support the cessation of Flight Plan 2012 by 2034, as agreed at the AN-Conf/14. To address these challenges, the Commission agreed that ICAO develop a strategy to support the implementation of SWIM at regional and national levels while facilitating a harmonized approach to implementing SWIM across all ICAO regions. The Commission also agreed that ICAO advance work on the technical enablers needed for a seamless data exchange including routing, information service definitions, registries and information security protocols. The Commission encouraged States to consider implementing SWIM capabilities to enable FF-ICE, meteorology and aeronautical information services.

24.65 Information papers provided by Argentina and supported by Belize, Bolivia (Plurinational State of), Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico,

Nicaragua, Panama, Paraguay, Peru and Uruguay (A42-WP/427), China (A42-WP/337), and Cuba supported by LACAC Member States* (A42-WP/446) were noted.

ICAO policy on radio frequency (RF) spectrum matters

24.66 The Commission reviewed A42-WP/33, presented by the Council, which recognized that several agenda items for the upcoming International Telecommunication Union World Radiocommunication Conference in 2027 (ITU WRC-27) have implications for aviation and might degrade safety of aircraft operation, for example Agenda Item 1.7 related to radio altimeters. The paper urged Member States to firmly support the ICAO frequency spectrum strategy, actively engage with their national radio regulatory authorities, participate in WRC-27 preparatory activities within the ITU Radiocommunication Sector (ITU-R) as well as regional WRC preparatory activities, and the WRC in 2027.

24.67 The Commission reviewed A42-WP/329, presented by IATA, IFALPA, CANSO and IBAC, and co-sponsored by Singapore, which addressed the necessity of balancing spectrum efficiency with aviation safety. The paper illustrated challenges faced by the aviation community due to potential interference to critical aeronautical systems such as radio altimeters, caused by the emergence of new technologies such as 5G and 6G. Recalling that civil aircraft routinely fly across international borders, the Commission acknowledged the need for global action, especially in preparation for WRC-27, as unresolved national or regional spectrum issues affect global flight safety and operational efficiency globally.

24.68 The Commission reviewed A42-WP/348, presented by Brazil, which identified WRC-27 Agenda Items that present direct or potential threats to aviation spectrum. The paper called for identification of the most effective ways for States and stakeholders to monitor and actively engage in ongoing studies related to those WRC-27 Agenda Items, and to assess the actual implications of failing to safeguard current and future spectrum access for any of the WRC agenda items of concern.

24.69 The Commission acknowledged the urgency of this subject and agreed that the contents of A42-WP/329 and A42-WP/348 be brought to the attention of appropriate expert group(s) for further consideration and actions. Furthermore, in light of the discussion, the Commission agreed to submit, for adoption by the Plenary, the following resolution to supersede Assembly Resolution A41-7:

Resolution 24/2: Support of the ICAO policy on radio frequency spectrum matters

Whereas ICAO is the specialized agency of the United Nations responsible for the safety, regularity and efficiency of international civil aviation;

Whereas ICAO adopts international Standards and Recommended Practices (SARPs) for aeronautical communications systems and radio navigation aids;

Whereas the International Telecommunication Union (ITU) is the specialized agency of the United Nations regulating the use of the radio frequency spectrum;

Whereas the ICAO position, as approved by the Council, for ITU World Radiocommunication Conferences (WRCs) is the result of the coordination of international aviation requirements for radio frequency spectrum;

* Belize, Bolivia (Plurinational State of), Chile, Colombia, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of).

Whereas a comprehensive frequency spectrum strategy is required by aviation to support timely availability and appropriate protection of adequate spectrum;

Whereas a sustainable environment for growth and technology development is required to support safety and operational effectiveness for current and future operational systems and allow for the transition between present and future technologies;

Recognizing that the development and the implementation of the communications, navigation, and surveillance/air traffic management (CNS/ATM) systems and the safety of international civil aviation could be seriously jeopardized unless requirements for appropriate aviation safety spectrum allocations are satisfied and the continued protection of those allocations is achieved;

Recognizing that unresolved spectrum issues relating to aeronautical safety services have resulted in flight cancellations, degradations of air traffic management services, and interruptions of flight operations;

Recognizing that civil aviation seamlessly spans across international borders and operates despite national or regional differences in implementation of non-aeronautical radio services, unresolved spectrum issues relating to global aeronautical safety services may impact international flight operations.

Recognizing that to ensure optimal use of the frequency spectrum allocated to aviation, efficient frequency management and use of best practices are required;

Recognizing that support from ITU member administrations is required to ensure that the ICAO position is supported by the WRC and that aviation requirements are met;

Considering the urgent need to increase such support due to the growing demand for spectrum and aggressive competition from commercial telecommunications services;

Considering the increased level of ITU WRC preparation activities associated with the growing demand for bandwidth from all users of the radio frequency (RF) spectrum, as well as the increased importance of the development of regional positions by regional telecommunication bodies, such as APT, ASMG, ATU, CEPT, CITEL and RCC4; and

Considering Recommendations 7/3 and 7/6 of the Special Communications/Operations Divisional Meeting (1995) (SP COM/OPS/95), Recommendation 5/2 of the 11th Air Navigation Conference (2003), and Recommendation 1/12 of the 12th Air Navigation Conference (2012), and Recommendation 5/5 of the High-level Conference on COVID-19 (2021);

The Assembly:

1. *Encourages* Member States to foster an environment that enables national radio regulatory authorities to work in close coordination with civil aviation authorities, thereby ensuring that aviation interests are properly reflected in national spectrum policies and State positions in preparation for and during ITU WRCs;

2. *Urges* Member States, international organizations and other civil aviation stakeholders to support firmly the ICAO frequency spectrum strategy and the ICAO position at WRCs and in regional and other international activities conducted in preparation for WRCs, including by the following means:

   a) working together to deliver spectrum-efficient aeronautical systems as well as frequency management that meet current best practices;

b) supporting ICAO activities relating to the aviation frequency spectrum strategy and policy through relevant expert group meetings and regional planning groups;

c) undertaking to provide for aviation interests to be fully integrated in the development of their positions presented to regional telecommunications fora involved in the preparation of joint proposals to the WRC;

d) including in their proposals to the WRC, to the extent possible, material consistent with the ICAO position;

e) supporting the ICAO position and the ICAO policy statements at ITU WRCs as approved by Council and incorporated in the *Handbook on Radio Frequency Spectrum Requirements for Civil Aviation* (Doc 9718);

f) undertaking to provide civil aviation experts to fully participate in the development of States' and regional positions and development of aviation interests at the ITU; and

g) ensuring, to the maximum extent possible, that their delegations to regional conferences, ITU study groups and WRCs include experts from their civil aviation authorities and other civil aviation stakeholders who are fully prepared to represent aviation interests;

3. *Urges* Member States to actively engage with their radio regulatory authorities in order to incorporate aviation interests with other national interests, especially in preparation for and during ITU WRCs;

4. *Urges* Member States to consider, as a priority, public and aviation safety when deciding how to enable new or additional services, and to consult with aviation safety regulators, subject matter experts and airspace users, to provide all necessary considerations and to establish regulatory measures to ensure that incumbent aviation systems and services are free from harmful interference;

5. *Requests* the Secretary General to bring to the attention of ITU the importance of adequate radio frequency spectrum allocation and protection for the safety of aviation;

6. *Instructs* the Council and the Secretary General, as a matter of high priority within the budget adopted by the Assembly, to ensure that the resources necessary to support the development and implementation of a comprehensive aviation frequency spectrum strategy, as well as increased participation by ICAO in international and regional spectrum management activities are made available; and

7. *Declares* that this resolution supersedes Resolution A41-7.

GNSS vulnerabilities and resilience

24.70 The Commission reviewed A42-WP/34, presented by the Council, which highlighted the risks and consequences associated with global navigation satellite system (GNSS) radio frequency interference (RFI), and outlined an ICAO roadmap that includes short-term mitigation measures and long-term solutions. The Commission expressed grave concerns regarding the potential impacts of GNSS RFI on aviation safety, specifically noting that it has been identified as a contributing factor to three global high-risk categories of occurrence, while also recognizing the ongoing technical efforts made to mitigate its adverse effect.

24.71 The Commission also noted actions taken to address GNSS RFI and urged States, international organizations, donors and relevant stakeholders to support ICAO's ongoing efforts, through means such as providing voluntary contributions toward the validation and deployment of an implementation package (iPack) for the mitigation of GNSS RFI.

24.72 Noting the improved reporting procedure between ICAO and ITU, the Commission urged States to report GNSS RFI occurrences which cannot be resolved through routine national or international procedures to their accredited ICAO Regional Office, in addition to following the procedures outlined in the ITU Radio Regulations.

24.73 The Commission reviewed A42-WP/108, presented by ICCAIA, CANSO, IFALPA and IBAC, and co-sponsored by FSF and IFATCA; and A42-WP/204, presented by Denmark on behalf of the EU and its Member States[*], the other Member States[†] of ECAC, and by EUROCONTROL, and co-sponsored by Algeria, Bahrain, Canada, Comoros, Djibouti, Egypt, Iraq, Japan, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Singapore, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates, Yemen, IFALPA and FSF. The Commission agreed on the need for ICAO to expedite efforts to standardize GNSS RFI related solutions including complementary position, navigation and timing (C-PNT), signal authentication for GNSS core constellations and augmentation services.

24.74 The Commission also agreed on the need to coordinate with SMOs to make aircraft avionics architectures more robust and resilient to GNSS RFI and to develop requirements and supporting performance standards for time synchronization across all airborne and ground-based automated systems The Commission further invited industry to accelerate the development and implementation of the resulting solutions.

24.75 The Commission was informed that a new concept called "Digital Operational Reporting Information Service" is being developed to replace the NOTAM system and other temporary aeronautical information. This service would enable real-time and systemic collection and dissemination of GNSS interference events. Furthermore, the Commission noted that, while phraseology to be used by pilots and air traffic controllers in case of GNSS interference is published in the *Procedures for Air Navigation Services — Air Traffic* Management (PANS-ATM, Doc 4444), such phraseology is not intended to be exhaustive and pilots and ATS personnel were expected to use plain language when necessary. Nevertheless, consideration of phraseologies is included in the work programme of the Organization.

24.76 The Commission reviewed A42-WP/335, presented by IATA, IBAC and IFATCA and co-sponsored by IFALPA; and A42-WP/134, presented by China and co-sponsored by Singapore; and A42-WP/171, presented by Japan. The Commission supported the multi-faceted approach for mitigating GNSS RFI, including the development of real-time GNSS monitoring and analysis systems. The Commission also agreed that mitigation measures must be multilayered and adaptable to different operational environments. The Commission acknowledged the need to establish a comprehensive review framework to ensure the overall resilience of CNS/ATM systems and services.

24.77 The Commission reviewed A42-WP/210, presented by Brazil; and A42-WP/237, presented by Saudi Arabia and reaffirmed the importance of States adopting comprehensive strategies to enhance the resilience of navigation systems through the integration of ground-based CNS infrastructure. The

[*] Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

[†] Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, North Macedonia, Norway, San Marino, Serbia, Switzerland, Türkiye, Ukraine and the United Kingdom.

Commission also emphasized the need for further guidance in defining adequate and resilient networks of CNS to ensure continuity of air navigation services, and the importance of strengthening regional and inter-regional coordination on this issue through the PIRGs.

24.78 The Commission was informed of ongoing efforts by ICAO expert groups to develop new provisions related to resilient navigation operational network (NAV RON), aiming at optimizing conventional navigation infrastructure and establishing more resilient networks. These efforts focus on defining "sufficient NAV network" and its relationship with minimum navigation operational network (NAV MON). Additionally, the NAV RON will include provisions to enhance aeronautical digital data and charts that allow pilots to fully utilize the available navigation infrastructure, based on accurate facility types and coverage. The Commission noted that capacity building activities related to NAV RON will be carried out to support States in planning and implementing the new concept.

24.79 The Commission reviewed A42-WP/190, presented by India; and A42-WP/423, presented by Argentina and supported by Belize, Bolivia (Plurinational State of), Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Paraguay, Peru and Uruguay. Both papers emphasized the need for more targeted research into the performance of ground-based augmentation systems (GBAS), especially in equatorial and low-latitude regions where unique ionospheric disturbances pose significant challenges to GNSS.

24.80 The Commission was informed that the development of SARPs and guidance material related to GBAS operations in ionospherically active low-latitude regions and consideration of maintenance updates to improve GBAS performance in these areas, are already included in the work programme of the Organization. In this regard, the Commission encouraged States and research institutions to collaborate in developing required equatorial GNSS performance models. The Commission recalled that ICAO has introduced dual frequency multiple constellation (DFMC) GNSS SARPs which can improve aviation safety and resilience against space weather effects like ionospheric disturbances.

24.81 The Commission noted the need for enhancement of satellite-based augmentation system (SBAS) resilience in equatorial and low-latitude regions, where solar activities and ionospheric disturbances may have significant impacts. The Commission also recalled that there is an ongoing effort led by the relevant expert groups for the enhancement of space weather monitoring and forecast capabilities on a global basis.

24.82 Furthermore, the Commission agreed that the contents of A42-WP/108, A42-WP/204, A42-WP/190, A42-WP/335, A42-WP/134, A42-WP/171, A42-WP/237, A42-WP/210 and A42-WP/423 should be referred to the relevant expert groups for further consideration, with due regard to existing priorities and available resources.

24.83 In view of the overall discussion on GNSS RFI, the Commission agreed to submit, for adoption by the Plenary, the following resolution to supersede Assembly Resolution 41-8, Appendix C:

Resolution 24/3: Consolidated statement of continuing ICAO policies and practices related to a global air traffic management (ATM) system and communications, navigation, and surveillance/air traffic management (CNS/ATM) systems

Whereas it is considered desirable to consolidate Assembly resolutions on the Organization's policies and practices related to CNS/ATM in order to facilitate their implementation and practical application by making their text more readily available *and* logically organized;

The Assembly:

1. *Resolves* that the Appendices attached to this resolution constitute the consolidated statement of continuing ICAO policies and practices related to CNS/ATM, as these policies exist at the close of the 42nd Session of the Assembly;

2. *Resolves* to continue to adopt, at each ordinary session of the Assembly for which a Technical Commission is established, a consolidated statement of continuing ICAO policies and practices related to CNS/ATM; and

3. *Declares* that this resolution supersedes A41-8.

APPENDIX A

General policy

Whereas ICAO is the only international organization in a position to effectively coordinate global CNS/ATM activities;

Whereas the ICAO CNS/ATM systems should be utilized to serve the interests and the objectives of civil aviation throughout the world;

Whereas Contracting States should have equal rights to benefit from global systems incorporated within the ICAO CNS/ATM systems; and

Considering the Statement of ICAO Policy on CNS/ATM Systems Implementation and Operation developed and adopted by the ICAO Council on 9 March 1994;

The Assembly:

1. *Resolves* that nothing should deprive a Contracting State from its right to benefit from the ICAO CNS/ATM systems or cause discrimination between provider and user States;

2. *Resolves* that States' sovereignty and borders should not be affected by the ICAO CNS/ATM systems implementation;

3. *Urge*s that provisions and guidance material relating to all aspects of the ICAO CNS/ATM systems should be sought and developed through the convening of adequate meetings, conferences, panels and workshops with the participation of Contracting States; and

4. *Urges* that the proposed provisions covering all aspects of the ICAO CNS/ATM systems be presented to all Contracting States well in advance to give them enough opportunity to prepare themselves as far as practicable.

APPENDIX B

Harmonization of the implementation of the ICAO CNS/ATM systems

Considering the international character of civil aviation and the regional interactions of air navigation services;

Considering Recommendations 4/5, 6/2, 7/1, 8/4 and 8/5 of the 10th Air Navigation Conference, Recommendations 4/4 and 4/5 of the third meeting of the Special Committee for the Monitoring and Coordination of Development and Transition Planning for the Future Air Navigation System (FANS Phase II), Recommendation 4/4 of the fourth meeting of the FANS (Phase II) Committee, and Recommendations 1/1, 1/5, 1/13, 2/8, 4/1, 6/9, 6/13 and 7/3 of the 11th Air Navigation Conference;

Considering that these recommendations have been noted or approved by the Council of ICAO, which has instructed the Secretary General of ICAO to take all appropriate measures;

Recognizing the role which regions must play in the planning and implementation of the ICAO CNS/ATM systems;

Conscious of the delay which certain regions could experience in the transition to these systems;

Noting with satisfaction the trials and demonstrations programmes and the progress being achieved by all regions with regard to the implementation of advanced ATM systems;

Believing that the contribution of all regions would guarantee a better evaluation of the trials and would favour the evolution of the ICAO CNS/ATM systems in order to ensure that the systems become interoperable and contribute to a global, seamless ATM system that allows adaptation to efficiently meet regional and local needs;

Noting that economic and institutional issues, in particular cost-benefit analyses, facility financing, cost recovery and cooperative aspects, need to be addressed by States individually and/or collectively; and

Noting that for an early realization of benefits to users and for globally coordinated and harmonious CNS/ATM systems in support of a global ATM system implementation, certain States will require technical and financial assistance and recognizing the statement concerning the central role ICAO shall play in coordinating technical cooperation arrangements as well as in facilitating the provision of assistance to States with regard to the technical, financial, managerial, legal and cooperative aspects of implementation;

The Assembly:

1. *Calls upon* States, PIRGs and the aviation industry to use the ICAO Global ATM Operational Concept as the common framework to guide planning and implementation of CNS/ATM systems and to focus all such development work on the Global ATM Operational Concept;

2. *Calls upon* States and regional safety oversight organizations (RSOOs) to establish a framework for joint planning and cooperation at the subregional level for joint development of CNS/ATM systems;

3. *Urges* the Council to ensure that ICAO develop the transition strategies, ATM requirements and SARPs necessary to support the implementation of a global ATM system;

4. *Urges* the Council to continue considering without delay the economic, institutional, legal and strategic aspects related to the implementation of the ICAO CNS/ATM systems;

5. *Urges* the Council to take the steps necessary to ensure that the future global ATM system is performance-based and that the performance objectives and targets for the future system are developed in a timely manner;

6. *Calls upon* States, in a position to do so, and invites international organizations concerned, users and service providers to:

a) spare no effort in cooperating in and facilitating the execution of the research, development, trials and demonstrations (RDT&D) programme in close cooperation with States with limited resources; and

b) validate the concept components identified in the Global ATM Operational Concept;

7. *Requests* the Council, as a matter of high priority within the budget adopted by the Assembly, to ensure that adequate resources are made available to the ICAO Regional Offices, particularly those which are accredited to the developing States, taking into account the increased support they will be called upon to provide to the regional planning and implementation groups, which are the main bodies for the regional planning of the transition to the ICAO CNS/ATM systems; and

8. *Further requests* the Council to continue to urge States, international organizations and financial institutions to mobilize resources in order to assist States requiring technical cooperation in the planning and implementation of the ICAO CNS/ATM systems.

APPENDIX C

Ensuring the resilience of ICAO CNS/ATM systems and services

Whereas the CNS/ATM systems are evolving and so are the associated CNS interdependencies, threats and vulnerabilities;

Whereas the occurrences of interferences against satellite-based CNS systems and global navigation satellite system (GNSS), in particular, have significantly increased;

Whereas CNS resiliency to interference needs to be addressed at a global level with a holistic approach, ensuring an efficient and coordinated evolution between the infrastructure architecture, improved technological capabilities, civil and military operational procedures, radio regulatory authorities and civil military coordination;

Recognizing that resiliency to interference needs to be improved by maximizing the integration of all suitable ground infrastructure, space infrastructure and airborne components in a complementary and cooperative manner, to be as robust as possible to cases of satellite-based service disruption or environments where false or deceptive signals are present;

Recognizing that both the aircraft on-board and ground infrastructure complementing the satellite-based CNS systems need to be adapted to include, where appropriate, interference detection, mitigation and reporting functions to support the resolution of operationally encountered performance anomalies;

Believing that, combined with the use of the appropriate legal framework, such capabilities and measures will allow for the relevant authorities to act upon harmful interferences caused by the illegal operation of

transmitters and avoid the proliferation and the use of such illegal transmitters and the misuse of test and maintenance equipment;

Believing that, with appropriate coordination and application of best practices, military and State authorities can conduct GNSS-related testing and other interventions using radio equipment as necessary and without causing an undue impact on civil aviation;

Believing that civil-military coordination should facilitate the sharing of relevant information with airspace users, especially when flying in the vicinity of a conflict zone; and

Acknowledging that loss of crew's situational awareness from malicious origin is classified as a cybersecurity threat and cannot be tolerated in civil aviation; and that intentionally sending misleading signals to replace the accurate signal is a far more serious threat to flight safety than the loss of this signal.

The Assembly:

1. *Encourages* States to transition towards optimized, secure CNS systems based on complementary integration of suitable and independent aircraft capabilities, satellite- and ground-based infrastructure which maximize resiliency and robustness to any type of interference;

2. *Encourages* standardization bodies and industry to develop appropriate interference detection, mitigation and reporting capabilities for the aircraft on-board, satellite- and ground-based CNS system components, in order to ensure higher CNS resiliency, continuity of operations and prevent any cascading effects from the use of compromised position, velocity or time data;

3. *Encourages* States to ensure that resilient terrestrial CNS capabilities remain available to ensure safe operations and complement aircraft-level integration of position, navigation and time (PNT) with independent surveillance information supporting resilient and safe operations;

4. *Invites* ICAO to develop high-level principles on how to integrate CNS ground, space and on-board systems and capabilities and evolve PNT solutions to obtain more resilient positioning and timing services;

5. *Encourages* standardization bodies and industry to collaborate with ICAO in advancing PNT solutions that align with ICAO initiatives;

6. *Invites* ICAO to establish a comprehensive review framework to enhance the CNS/ATM resilience;

7. *Urges* States to apply necessary measures to avoid the commercialization/proliferation, purchase, possession and the use of illegal transmitters such as jammers and the misuse of test and maintenance equipment which may impact CNS systems;

8. *Urges* States to ensure close collaboration between aviation authorities, military authorities, service providers, radio regulatory and spectrum enforcement authorities to put in place any special measures required to ensure that the spectrum used by all CNS systems, and GNSS in particular, is free from harmful interference;

9. *Urges* States to refrain from any form of jamming, or spoofing affecting civil aviation;

10. *Urges* States to coordinate and notify to the maximum extent possible in advance with the air navigation services provider (ANSP) responsible for the affected airspace in case of military or other

State-authorized security or defence-related operations or training, potentially causing any form of jamming, or spoofing affecting civil aviation; and

11. *Urges* States and operators, when assessing the interference risks associated with conflict zones, to consider that the use of satellite-based CNS systems can potentially be impacted beyond those zones.

Other CNS issues

24.84 The Commission reviewed A42-WP/145, presented by AFCAC on behalf of African States[*]; and A42-WP/415, presented by Honduras on behalf of COCESNA Member States[†], that called for the development of further guidance material on the use of unmanned aircraft systems (UAS) for radio navigation ground and flight inspections. Noting that UAS-based flight inspections are within the work programme of the Organization, the Commission expressed broad support for the development of appropriate provisions and guidance material. However, the Commission also noted that the relevant expert groups are currently overwhelmed by high priority tasks such as developing provisions for C-PNT and NAV RON. The Commission agreed that the content of both papers be brought to the attention of relevant expert groups for consideration while taking due account of their current priority tasks.

24.85 The Commission reviewed A42-WP/148, presented by AFCAC on behalf of African States and acknowledged the need for provisions and guidance material to harmonize building restrictions in areas surrounding CNS facilities, and ensure a balance between land use in the vicinity of CNS facilities, aviation safety, economic growth and environmental protection. Noting that the requested actions are not on the Organization's work programme, the Commission agreed that the content of this working paper be referred to the Council for further consideration, subject to re-prioritization of activities funded through the 2026-2028 Budget and extra budgetary contributions.

24.86 The Commission reviewed A42-WP/479, presented by Colombia and supported by LACAC Member States[‡], which highlighted vulnerabilities of ADS-B to cyberattacks, interference and unauthorized disclosure. The paper proposed a comprehensive security strategy combining multi-sensor surveillance, integrity controls, AI-based anomaly detection, redundancy, privacy frameworks and training. The Commission recognized the comprehensive nature of the proposed approach and acknowledged concerns regarding the use of AI as well as embedding cryptography into existing ADS-B messages. The Commission, expressing support for harmonized solutions, agreed that the content of the working paper be brought to the attention of the relevant expert groups for further consideration. It also urged States to conduct their own ADS-B analyses in this area and to support harmonized solutions that safeguard ADS-B information while maintaining its operational benefits.

24.87 Information papers provided by Kazakhstan (A42-WP/47), Saudi Arabia (A42-WP/115 and A42-WP/157), New Zealand (A42-WP/622) and Türkiye (A42-WP/627 and A42-WP/629) were noted.

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[*] Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

[†] Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

[‡] Belize, Bolivia (Plurinational State of), Chile, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of).

RPAS/UAS/AAM

24.88 The Commission reviewed A42-WP/236, Revision No. 1, presented by Brazil and supported by 19 LACAC Member States*, which recommended the establishment of a personnel licensing framework for VTOL-capable aircraft, and A42-WP/347, presented by Kazakhstan, which recommended regulatory standards for the licensing and certification of pilots, remote pilots and operators engaged in urban air mobility (UAM) activities. The Commission, in noting the ongoing work to ascertain the need for provisions and guidance for the AAM ecosystem, which encompasses UAM, aiming for a safe integration of these activities into the airspace, recognized the need for timely global provisions for AAM, and further agreed that both papers should be referred to the relevant expert group for further consideration.

24.89 The Commission reviewed A42-WP/309, presented by Kazakhstan, which discussed the development of a unified traffic management system for high-density urban drone operations and the establishment of ICAO guidelines for UAS traffic management (UTM) integration with ATM at international airports; A42-WP/56, presented by Oman, which discussed integration of UAS into airspace, without negatively impacting the safety or efficiency of manned aviation operations; and A42-WP/495, presented by Kazakhstan, addressing the development of a global framework to enable cross-border UAS operations. The Commission recognized the increasing operational and safety complexity resulting from the lack of standardization of UTM deployments in the vicinity of major international airports and agreed on the need for a global framework to enable cross-border UAS operations, and considering the potentially international nature of AAM operations. The Commission, in noting the ongoing work to identify the gaps and formulate recommendation for future work on AAM, as well as the considerations contained in these papers, recognized the importance of continued leadership of ICAO in this domain, and agreed that the established expert groups were adequate. The Commission in addressing A42-WP/56 noted that the specific safety risk assessment methodology referred therein, while being relevant to enable certain UAS operations, may not be suitable for global application. The Commission recognized, in general, the importance and urgent need for global provisions for AAM. Accordingly, the Commission agreed to refer these working papers to the relevant expert groups for further consideration. Furthermore, the Commission urged Member States to engage in regional coordination initiatives, pilot projects, knowledge sharing in support of UTM-ATM integration, and facilitate cross-border UAS operations through mutual recognition of UAS operational authorizations.

24.90 The Commission reviewed A42-WP/269, presented by the United Arab Emirates, on investigation of AAM accidents and incidents; and A42-WP/381, presented by Argentina and supported by Belize, Bolivia (Plurinational State of), Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru and Uruguay, pertaining to the regulation and integration of airspace by manned and unmanned aviation. The Commission noted the ongoing work in identifying gaps and formulating recommendations for future work in relation to AAM, and recognized that the unique characteristics of AAM posed complex challenges, including with respect to implementation and capacity building. Therefore, the Commission agreed on the importance to develop fit-for-purpose regulatory frameworks for AAM, and also agreed to refer these papers to the relevant expert groups for further consideration.

24.91 The Commission reviewed A42-WP/467, presented by Brazil, proposing to establish an expert group on the application of AI. The Commission noted the approach of the Organization with respect to AI, which was that it should be discussed first and foremost in the various fora where AI use is considered, and that only common elements (e.g. governance, ethics) would be coordinated. The

* Argentina, Belize, Bolivia (Plurinational State of), Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of).

Commission further noted that ICAO would work with the relevant United Nations efforts to ensure that AI governance aspects are consistent across sectors. The Commission, while recognizing the implications of AI in ICAO's work, called the Organization to strengthen its coordination efforts, both internally and externally.

24.92 The Commission reviewed A42-WP/160, presented by Australia, co-sponsored by Brazil, Canada, New Zealand and Singapore; and A42-WP/287, presented by the United States and co-sponsored by Singapore, calling for the urgent development and implementation of measures to facilitate legally compliant and safe UAS operations over the high seas, including interim solutions and recognition of the obligation and prerogative of States to identify the legal basis on which compliant operations might be conducted today. The Commission acknowledged the need for a timely solution and noted the ongoing work as a part of the gap analysis undertaken by the relevant expert groups. The Commission also acknowledged the current framework of the *Convention on International Civil Aviation* (Doc 7300), and more specifically certain provisions of its Annexes, as presenting challenges for, if not necessarily insurmountable obstacles to, UAS operations over the high seas, which can inhibit States from authorizing said operations in a lawful manner. The Commission, in expressing broad support for the two papers, noted the need for a long-term framework, requested that the Organization develop an interim solution to enable States to lawfully authorize such operations, both in a manner commensurate with risk and, in the meantime, confirm the obligation and prerogative of States to identify the legal basis on which compliant operations may be conducted today, pending and subject to the adoption of interim and more enduring provisions. The Council was urged to develop and adopt, ideally before the end of 2026, an interim framework which would be outcome-based, consistent with the intent of, and compliant with, the Chicago Convention, such as through acceptable means of compliance. In noting the recent legal work of the relevant expert group on the subject, the Council was also requested to consider using an expedited development process for such interim solutions.

24.93 Information papers provided by Belize on behalf of COCESNA Member States [*] (A42-WP/387), China, Cook Islands, Indonesia, Philippines, Singapore, Thailand and co-sponsored by Fiji, Japan, New Zealand and the Republic of Korea (A42-WP/172 Revision No. 1), China, Singapore and co-sponsored by Egypt (A42-WP/195), Dominican Republic (A42-WP/312), India (A42-WP/166), Indonesia (A42-WP/635), Japan (A42-WP/170), Malaysia (A42-WP/566 and A42-WP/567), Qatar (A42-WP/62), Saudi Arabia (A42-WP/520), United States (A42-WP/618 and A42-WP/636), Venezuela (Bolivarian Republic of) and supported by Member States[†] of LACAC (A42-WP/441), AFCAC on behalf of its Member States[‡] (A42-WP/223), IAC (A42-WP/50), IATA (A42-WP/355) and ICCAIA (A42-WP/500) were noted.

Regional cooperation and implementation

24.94 The Commission reviewed A42-WP/32, presented by the Council, outlining ICAO's strategic efforts to enhance aviation safety oversight and accident investigation capabilities of States through regional cooperation mechanisms. The paper also highlighted the need for ICAO to continue evolving its processes and activities to support States effectively in overcoming common safety challenges through strengthening regional cooperation mechanisms and implementation support activities. The

[*] Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

[†] Belize, Bolivia (Plurinational State of), Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Panama, and Uruguay.

[‡] Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

Commission noted the key activities and programmes undertaken by ICAO to strengthen regional cooperation mechanisms to assist States and supported the transition of Global Aviation Safety Oversight System (GASOS) to the RSOO and RAIO Assessment Programme (RRAP). The Commission agreed to urge States, industry and international organizations to support ICAO's regional cooperation activities and programmes.

24.95 The Commission reviewed A42-WP/206, presented by AFCAC on behalf of African States* and co-sponsored by IAC, which highlighted the contributions of Regional Safety Oversight Organizations (RSOOs), RAIOs, Investigation Cooperation Mechanisms (ICMs), and other regional cooperative mechanisms in strengthening safety oversight and accident investigation across Africa, such as the Africa-Indian Ocean Cooperative Inspectorate Scheme (AFI-CIS), and globally. The paper recommended that Member States promote and support participation in regional mechanisms, devise funding to support these mechanisms, as well as establish legal frameworks to enable effective delegation of safety functions to regional and cooperative bodies. The Commission acknowledged the ongoing need for enhanced support to strengthen these regional safety cooperation mechanisms, and agreed that the inclusion of delegated functions by regional cooperation mechanisms within ICAO Annexes will be referred to and considered by the relevant expert groups as appropriate.

24.96 In view of the overall discussion, the Commission agreed to submit, for adoption by the Plenary, the following resolution to supersede Assembly Resolution A40-6:

Resolution 24/4: Regional cooperation and assistance to resolve safety deficiencies

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

Whereas ensuring the safety of international civil aviation is also the responsibility of Member States both collectively and individually;

Whereas in accordance with Article 37 of the *Convention on International Civil Aviation* each Member State undertakes to collaborate in securing the highest practicable degree of uniformity in regulation, standards, procedures and organization in relation to aircraft, personnel, airports, airways and auxiliary services in all matters in which uniformity will facilitate and improve air navigation;

Whereas the improvement of the safety of international civil aviation on a worldwide basis requires the active collaboration of all stakeholders;

Whereas the Convention and its Annexes provide the legal and operational framework for Member States to build a civil aviation safety system based on mutual trust and recognition, requiring that all Member States implement the SARPs as far as practicable and adequately perform safety oversight;

Whereas the results of the Universal Safety Oversight Audit Programme Continuous Monitoring Approach (USOAP CMA) activities indicate that several Member States have not yet been able to establish sustainable safety oversight and/or investigative systems and some Member States have been identified as having significant safety concerns (SSCs);

* Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

Whereas ICAO plays a leadership role in facilitating the implementation of SARPs and the rectification of safety-related deficiencies by coordinating support and harnessing resources among aviation safety partners;

Recognizing the endorsement by the 41st Assembly of the ICAO Policy on Implementation Support Provided to States in 2022 for the provision of needs-based implementation support to States and non-State entities, under a *One ICAO- Approach;*

Recognizing that the ICAO Country Strategies developed under the ICAO Policy for Implementation Support Provided to States, serve as a platform to provide, in coordination with other stakeholders, direct implementation support and guidance to States in resolving their SSCs as well as addressing low effective implementation (EI) of critical elements;

Whereas ICAO has a Policy on Regional Cooperation which is committed to render assistance, advice and any other form of support, to the extent possible, in the technical and policy aspects of international civil aviation to Member States in carrying out their responsibilities pertaining to the *Convention on International Civil Aviatio*n and ICAO Strategic Goals, inter alia by promoting regional cooperation through close partnerships with regional organizations and regional civil aviation bodies;

Recognizing that not all Member States have the requisite human, technical and financial resources to adequately perform safety oversight and/or investigative functions;

Recognizing that the establishment of subregional and regional aviation safety and safety oversight bodies, including regional safety oversight organizations (RSOOs), regional accident and incident investigation organizations (RAIOs) and Investigation Cooperative Mechanisms (ICMs), has great potential to assist States in fulfilling their obligations under the Chicago Convention through economies of scale and harmonization on a larger scale resulting from the collaboration among Member States in establishing and operating a common safety oversight and/or accident and incident investigation system;

Recalling that as signatories to the Convention, the obligations pertaining to safety oversight and/or accident investigation rest and remain exclusively with the Member States and that they are responsible for implementing ICAO Standards, States may, in this respect, decide on a voluntary basis to delegate certain tasks and functions to RSOOs and RAIOs, based on an appropriate legal instrument and that, when applicable, the word "States" should be read to include RSOOs and RAIOs;

Recalling that the Thirteenth Air Navigation Conference (AN-Conf/13) (2018) recommended that ICAO continue developing GASOS to strengthen RSOOs and to improve their effectiveness and efficiency in supporting States;

Recognizing the need to evolve GASOS into the RSOO and RAIO Assessment Programme (RRAP) that will assess the capabilities and qualifications of RSOOs and RAIOs/ICMs, with the goal to strengthen these organizations and improve their effectiveness and efficiency in supporting States;

Acknowledging the recognition given in Annex 19 to RSOOs and their role in discharging delegated State safety management functions on behalf of States;

Recognizing that groups of Member States may decide to establish regional aviation systems, the legal basis of which may be realized through one or a combination of means including, but not restricted to regional frameworks, an international Treaty and national primary legislations, with the aim of establishing common rules and oversight applicable in the Member States;

Recognizing that the assistance available to Member States experiencing difficulties in correcting deficiencies identified through the safety oversight audits, particularly with priority given to those States with SSCs, would be greatly enhanced by coordination amongst all RSOOs, RAIOs, Member States, ICAO and other concerned parties in civil aviation operations; and

Recalling Assembly Resolution A37-16 that recognizes the establishment of the Safety Fund (SAFE) to serve as a mechanism for collecting and allocating voluntary contributions from States and other donors to support ICAO safety and air navigation programmes to improve the safety of civil aviation by addressing serious safety deficiencies in Member States that lack the financial means to do so;

The Assembly:

1. *Directs* the Council, in partnership with all aviation safety partners, to continue implementing a coordinated and collaborative implementation support programme that will help Member States to correct deficiencies identified through USOAP CMA, with priority given to the resolution of SSCs;

2. *Directs* the Council to promote the concepts of regional cooperation, including the strengthening of RSOOs, and RAIOs;

3. *Directs* the Council to take the appropriate actions to ensure that the specificities of a regional aviation system established by a group of Member States are recognized and integrated in the ICAO framework;

4. *Directs* the Council to evolve and transition the Global Aviation Safety Oversight System (GASOS) into the RSOO and RAIO Assessment Programme (RRAP), including in its aim to leverage synergies with the Universal Safety Oversight Audit Programme (USOAP), to strengthen, assess and support RSOOs and RAIOs in their efforts to assist their Member States in accomplishing certain safety oversight, accident and incident investigation and safety management functions and activities, while ensuring those States understand their obligations and responsibilities under the Chicago Convention;

5. *Directs* the Council to continue to build new and foster existing partnerships for coordinating and facilitating the provision of financial and technical assistance to States and subregional and regional safety oversight and investigative bodies, including RSOOs and RAIOs in order to enhance their capacity;

6. *Directs* the Council to continue the analysis of relevant safety-critical information for determining effective means of providing implementation support to States and subregional and regional safety oversight and investigative bodies, including RSOOs and RAIOs;

7. *Urges* Member States to give the highest priority to the resolution of SSCs in order to ensure that there are no immediate safety risks to international civil aviation and that the minimum requirements established by the Standards set forth in the ICAO Annexes are met;

8. *Urges* Member States to develop and further strengthen regional and subregional cooperation in order to promote the highest degree of aviation safety;

9. *Reminds* Member States, industry and other stakeholders on the need to provide voluntary contributions to the SAFE Fund as requested under A37-16 to ensure that effective implementation support in the area of safety is provided to States and/or regional cooperation mechanisms that are in need of assistance;

10. *Calls* upon all Member States and relevant aviation safety partners, wherever possible, to assist requesting States with financial and technical resources to ensure the immediate resolution of identified SSCs and the longer-term sustainability of the State safety oversight system;

11. *Encourages* Member States to request their RSOOs and/or RAIOs to participate in the RSOO and RAIO Assessment Programme (RRAP) to strengthen those organizations and better serve their Member States in meeting their safety and investigative responsibilities under the Convention;

12. *Encourages* Member States to establish partnerships with other States, RSOOs, RAIOs, industry, financial institutions and other aviation safety partners to strengthen safety oversight and investigative capabilities, in order to better discharge State responsibilities and foster a safer international civil aviation system;

13. *Encourages* Member States to foster the creation of regional or subregional partnerships to collaborate in the development of solutions to common problems to build State safety oversight and investigative capabilities, and to participate in, or provide tangible support for, the strengthening and furtherance of subregional and regional aviation safety oversight and investigative bodies, including RSOOs and RAIOs;

14. *Requests* the Council to play a leading role in coordinating efforts to assist States to resolve SSCs through the development of ICAO Country Strategies and/or specific project proposals and to assist States to obtain the necessary financial resources to fund such implementation support projects;

15. *Urges* Member States and relevant safety partners to support the implementation of Country Strategies to assist States overcome SSCs, as well as to build sustainable capacity within States;

16. *Requests* the Council to report to the next ordinary session of the Assembly on the progress of regional cooperation and implementation support activities;

17. *Encourages* Member States to reinforce their legal frameworks for RSOOs and RAIOs/ICMs, ensuring that delegation mechanisms are clearly defined while preserving their responsibilities under the Chicago Convention;

18. *Encourages* the industry to actively engage in the work of RSOOs and RAIOs/ICMs and provide appropriate support; and

19. *Declares* that this resolution supersedes Resolution A40-6.

Agenda Item 25: Other issues to be considered by the Technical Commission

Certification and oversight

25.1 The Commission discussed A42-WP/310 Revision No. 1, presented by Kazakhstan and noted the value of the application of quality management systems in aviation.

25.2 The Commission reviewed A42-WP/98, presented by Saudi Arabia, concerning the need for guidance material on the establishment of a framework for the certification of air navigation service providers (ANSPs). The Commission recalled that, during the 41st Session of the ICAO Assembly, the Technical Commission noted the ongoing applicability of Recommendation 3.5/3 – Certification of air navigation service providers (ANSPs) arising from AN-Conf/13. Recognizing that the work in this area

remains pending due to the lack of resources, the Commission invited ICAO to explore means for allocating the required resources to advance the development of guidance material on effective ANSP certification and oversight systems.

25.3 The Commission reviewed A42-WP/191, presented by Morocco, which highlighted the challenges associated with the growth of hot air balloon operations and the need to develop guidance on safety and airspace management related thereto. The Commission recalled the applicability of Annex 2 — *Rules of the Air* for balloon operations and broadly supported the development of such guidance. The Commission, noting the relevant ongoing work of ICAO, agreed to refer the content of the working paper to the relevant expert groups for further consideration.

25.4 The Commission reviewed A42-WP/168, presented by the United Arab Emirates and co-sponsored by IAC regarding harmonizing oversight practices for foreign air operators. While recognizing State sovereignty, the Commission broadly supported harmonized oversight practices. The Commission agreed to refer the contents of the working paper to the relevant expert groups for further consideration.

25.5 The Commission reviewed A42-WP/313, presented by Canada, the United States and CANSO, which highlighted the need to address performance and reliability issues for communications service providers (CSPs) and satellite service providers (SSPs). The Commission recognized the updates to relevant provisions in Annex 10 — *Aeronautical Telecommunications*, Volume III — *Communication Systems*, as well as the ongoing improvements to the *Performance-based Communication and Surveillance (PBCS) Manual* (Doc 9869) and recommended that ICAO continue enhancing these provisions and guidance material. The Commission further encouraged States to incorporate these updates into their national regulatory frameworks to strengthen oversight, ensure service continuity and enhance the resilience of satellite-based communication systems essential for safe and efficient international air traffic services.

25.6 The Commission reviewed A42-WP/332, presented by the European Organisation for Civil Aviation Equipment (EUROCAE) on behalf of RTCA Inc., the Society of Automotive Engineers (SAE) and the Aeronautical Radio, Incorporated (ARINC), which underscored the importance of strengthening collaboration between ICAO and SMOs to enhance safety, innovation and sustainability. Recognizing that industry standards are an essential complement to ICAO provisions, the Commission supported the continued practice of referencing those standards in ICAO's standardization framework, to the extent practicable and subject to validation to ensure fitness for purpose. The Commission raised concerns regarding the availability of free access to SMO documentation. The Commission encouraged a deeper engagement with SMOs to facilitate the efficient identification and integration of emerging technologies and safety critical innovations through a holistic and performance-based approach. The Commission emphasized the need to reinforce the ICAO Standards Roundtable (SRT) as the primary forum for aligning ICAO and SMO activities, to reduce the duplication and accelerate the development of high-quality standards.

25.7 Information papers presented by Bolivia (A42-WP/364), China (A42-WP/593 and A42-WP/599), the Dominican Republic (A42-WP/530), Malaysia (A42-WP/632), the Aviation Working Group (A42-WP/506) and the Aviation Services Association (A42-WP/545 and A42-WP/550) were noted.

Implementation support

25.8 The Commission reviewed A42-WP/61, presented by Qatar, regarding aviation exemption policy and guidance framework. The Commission acknowledged the distinction between exemptions and differences. The Commission supported the development of clear and centralized guidance material that would address the notification of differences and the issuance of exemptions. It was further suggested that

the issues referred to in the paper could be covered in the *Manual on Notification and Publication of Differences* (Doc 10055).

25.9 The Commission reviewed A42-WP/66, presented by South Africa, which considered the consolidation of material related to flight procedure design. While the Commission did not agree to the creation of a new Annex, there was support for the intent of the paper to be considered by other means, such as cross-referencing of relevant provisions in different documents. Furthermore, the Commission agreed that this should be referred to the Council for further consideration, subject to existing priorities funded through the 2026-2028 Budget and the availability of extra budgetary contributions.

25.10 The Commission reviewed A42-WP/333 Revision No. 1, presented by IATA and co-sponsored by IAC, regarding Standards and Recommended Practices (SARPs) applicability dates. The Commission supported realistic applicability dates to allow sufficient implementation time, ensuring feasibility before adoption and avoiding any unnecessary delays in the safety improvements.

25.11 The Commission reviewed A42-WP/473 Revision No. 1, presented by Bolivia, regarding temporary operations specifications. The Commission affirmed that existing SARPs, with supporting guidance, enable the use of temporary limitations within the operations specifications, and noted that regional action may be appropriate to address the issues raised.

25.12 The Commission reviewed A42-WP/177, presented by Singapore and co-sponsored by the Dominican Republic, New Zealand, the Philippines and Thailand, on enhancing the understanding of SARPs for effective implementation. The Commission recognized the potential of communication channels such as webinars and ICAO TV to complement existing State letters and guidance material, facilitate knowledge retention, strengthen institutional expertise, and better align national regulations with ICAO SARPs.

25.13 The Commission reviewed A42-WP/88, presented by Saudi Arabia and co-sponsored by the International Cospas-Sarsat Programme, which provided an overview of the Cospas-Sarsat Global Search and Rescue Day. The Commission noted the precedent where ICAO acknowledged celebratory days such as world pilots' day or the international day of the air traffic controller. The Commission also noted the potential impact on resources were that precedent amended. Considering that celebration of a Global Search and Rescue (SAR) Day was not included in the existing priorities funded through the 2026-2028 Budget, the Commission encouraged ICAO to maintain the precedent and encouraged all stakeholders to recognize the Global SAR Day.

25.14 The Commission reviewed A42-WP/478, presented by Colombia and sponsored by the LACAC Member States[*], regarding the requirement of a regulatory framework for night vision goggles. The Commission supported the proposal and agreed to refer the proposed action to the Council for further consideration, taking into account existing priorities funded through the 2026-2028 Budget and extra budgetary contributions.

25.15 Information papers presented by Argentina (A42-WP/569 and A42-WP/582), China (A42-WP/230, A42-WP/593, A42-WP/600, A42-WP/601), Bolivia (Plurinational State of) (A42-WP/394), India (A42-WP/528), Iran (Islamic Republic of) (A42-WP/292), Malaysia (A42-WP/612 Revision No. 1), the United Arab Emirates (A42-WP/91) and the United States (A42-WP/631) were noted.

[*] Belize, Bolivia (Plurinational State of), Cuba, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of).

Aviation licensing and training

25.16 The Commission reviewed A42-WP/81, presented by Ghana, which invited the Assembly to recognize the essential role of air traffic safety electronics personnel (ATSEP) in the aviation safety system and develop training provisions for Annex 10. The Commission also reviewed A42-WP/317, presented by Kazakhstan, which proposed to develop training and licensing provisions for ATSEP in Annex 1 — *Personnel Licensing*, and A42-WP/353, presented by IFATSEA, which proposed to incorporate artificial intelligence (AI) and cybersecurity training topics into guidance related to ATSEP. The Commission acknowledged the vital role that ATSEPs serve in the aviation safety system. It also recognized the importance of considering AI and cybersecurity hazards, mentioned that these are topics that should be contemplated using a risk and performance-based approach, and that the use of AI in aviation may not be mature. The Commission further discussed the suitability of training and licensing provisions. Recalling discussions from previous sessions of the ICAO Assembly and considering the discussions of the above papers, the Commission agreed to refer the contents of the working papers to the relevant expert groups for further consideration.

25.17 The Commission reviewed A42-WP/179, presented by the United States and cosponsored by IFALPA, which recommended further development of competency-based training and assessment (CBTA) provisions and guidance to support standardized pilot CBTA training implementation and oversight across Member States. The Commission noted the global momentum in CBTA implementation using the current pilot competency framework as well as the ongoing work in the Organization, supported the use of a science-based approach and agreed to refer the content of the working paper to the relevant expert groups for further consideration.

25.18 The Commission reviewed A42-WP/296, presented by CANSO, which recommended the establishment of a progressive licensing approach for air traffic controllers. The Commission expressed support, noting that it could improve student success and address resource constraints, and agreed to refer the content of the working paper to the relevant expert groups for further consideration.

25.19 The Commission reviewed A42-WP/301, presented by Kazakhstan and co-sponsored by ACI, which emphasized the need for an ICAO framework for establishing training requirements and guidance material for aerodrome and ground aids (AGA) inspectors. The Commission agreed to refer the proposal to the Council for further consideration, taking into account existing priorities funded through the 2026-2028 Budget and the availability of extra budgetary contributions.

25.20 The Commission reviewed A42-WP/316, presented by Kazakhstan, which recommended developing guidance related to the use of simulation and virtual and augmented reality for the training and licensing of aviation personnel other than flight crew members. The Commission noted that the topic is currently part of the work programme of the Organization and agreed to refer the content of the working paper to the relevant expert groups for further consideration.

25.21 The Commission reviewed A42-WP/474, presented by the Dominican Republic, which recommended including AI and professional project management in the training of aviation professionals. The Commission agreed to refer the content of the working paper to the relevant expert groups for further consideration.

25.22 Information papers presented by Japan (A42-WP/544), Türkiye (A42-WP/630), the United States (A42-WP/620) and IFATSEA (A42-WP/444), were noted by the Commission.

Airworthiness

25.23 The Commission reviewed A42-WP/280, presented by FSF and co-sponsored by Singapore and the United Kingdom, which presented findings from an Airworthiness Needs Analysis Study. The paper highlighted safety risks related to system component failures (SCF), both non-power plant (NP) and power plant (PP), regulatory oversight gaps, and underuse of ICAO's Online Airworthiness Information Network (OAIN). The Commission acknowledged the elevated risks related to SCF-NP and SCF-PP worldwide, supported the recommendations and agreed to refer the proposed action to the Council for further consideration, taking into account existing priorities funded through the 2026-2028 Budget and the availability of extra budgetary contributions.

25.24 The Commission reviewed A42-WP/123, presented by the United States and co-sponsored by Singapore and FSF, and acknowledged the importance of maintaining accurate contact information in ICAO repositories. The Commission agreed that the Assembly should direct the Council to ensure regular updates to *The Continuing Airworthiness of Aircraft in Service* (Circular 95) and the *Directory of National Civil Aviation Administrations* (Doc 7604) and encourage States to actively use the online airworthiness information network (OAIN) and Doc 7604 to support timely and reliable global information exchange.

25.25 The Commission reviewed A42-WP/211, presented by AFCAC on behalf of 54 African States[*], which urged ICAO, States, and stakeholders to prioritize the development of a regulatory framework, infrastructure, capacity-building and research to support sustainable aircraft end-of-life management, including dismantling, recycling, and the safe reuse of parts, in line with international standards. The Commission noted the ongoing work related to aviation part traceability and agreed to forward the content of the working paper to the relevant expert groups for further consideration. The Commission also highlighted the need to continue working with existing ICAO mechanisms.

25.26 The Commission reviewed A42-WP/74, presented by the ICCAIA, IFALPA, IBAC and co-sponsored by the Royal Aeronautical Society (RAeS), regarding the challenge of halon replacement. The Commission supported the need to assess the availability of the global halon reserves while emphasizing further research on alternatives, deferring decisions until post-A42 based on evidence and stock assessments.

25.27 Information papers presented by China (A42-WP/588 Revision No. 1), ICCAIA (A42-WP/395) and Kazakhstan (A42-WP/493) were noted by the Commission.

25.28 In light of the discussion, the Commission agreed to submit, for adoption by the Plenary, the following resolution, to supersede Assembly Resolution A39-13:

[*] Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

Resolution 25/1: 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 a realistic timeframe for 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 aircraft cargo compartments;

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. *Encourages* States to support measures to minimize unnecessary halon emissions that occur when there is an absence of any safety threatening fire event and to ensure the better management and preservation of existing halon reserves;

6. *Encourages* States, with the assistance of ICAO, to liaise with the United Nations Environment Programme (UNEP) Ozone Secretariat and the Montreal Protocol advisory body, the Technology and Economic Assessment Panel and its Fire Suppression Technical Options Committee, to assess global halon reserves and support the sustainable management of existing halon banks, including an essential use nomination for halon in aircraft cargo compartment applications under the Montreal Protocol to maintain aviation safety;

7. *Directs* the Council, in coordination with industry and considering the assessment of availability of the global halon reserves, to develop a proposal for a revised sustainable effective cut-off date for Halon replacement in Annex 8 — *Airworthiness of Aircraft* for new aircraft type certificate applications. This proposal shall be based on comprehensive data including Halon availability, progress in alternative solution development and take account of safety considerations.

8. *Directs* the Council to mandate the replacement of halon in cargo compartment fire suppression systems used in aircraft for which application for type certification will be submitted after a specified date in the 2024 timeframe; and

9. *Declares* that this resolution supersedes Resolution A39-13.

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APPENDIX

LIST OF WORKING PAPERS ASSOCIATED WITH THE WORK OF THE TECHNICAL COMMISSION

Item No.	Subject	No.	Title
23	**Global Aviation Safety and Air Navigation Plans**	A42-WP/655 and Revision No. 1	Draft text for the general section of the Technical Commission's Report and Agenda Item 23
		A42-WP/695	Report of the Technical Commission on the General Section of its report and on Agenda Item 23
		A42-WP/17	The global strategy for the continuous improvement of aviation safety: endorsement of the 2026-2028 edition of the Global Aviation Safety Plan
		A42-WP/31	A comprehensive strategy for air navigation: endorsement of the eighth edition of the Global Air Navigation Plan (GANP)
		A42-WP/92* and Revision No. 1	National aviation safety plan
		A42-WP/137	Integration of climate change adaptation into the future Global Aviation Safety Plan
		A42-WP/175	An enhanced data driven approach to identifying global operational safety risks
		A42-WP/189	Withdrawn
		A42-WP/192	Enhancing the efficacy and implementation of the Aviation System Block Upgrades (ASBU) and the performance frameworks
		A42-WP/202	Integration of operational improvement initiatives across regions
		A42-WP/209	Strengthening alignment between global plans: towards user-centered efficiency in aviation strategies
		A42-WP/341	Air traffic management: a global strategic imperative for future aviation
		A42-WP/345*	Avances en el cálculo de indicadores clave de rendimiento (KPI) del GANP – Volumen III
		A42-WP/350*	Global air navigation plan: regional implementation
		A42-WP/378*	Difficulties encountered by States and regions in implementing the Global Air Navigation Plan as updates are made, and suggestion of actions
		A42-WP/432	Appropriate timeframes to develop a planning methodology and implement the technical and operational solution requirements set out in air navigation plans

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Item No.	Subject	No.	Title
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		A42-WP/527	Unilateral decisions effects on international civil aviation and global air navigation plan
		A42-WP/529*	Modernising flight rules for the future of aviation: an evolutionary imperative
		A42-WP/537*	Saudi national air navigation plan (SNAP)
		A42-WP/543*	Update of national air navigation plan and governance plan for the organization
		A42-WP/589*	Enhancing the monitoring of operational performance metrics for critical equipment to improve the resilience of air navigation services
		A42-WP/594*	Enhancing the implementation of FF-ICE in the global strategic pre-flight planning phase
		A42-WP/595*	TBO validation achievements of China
		A42-WP/596*	Accelerating global governance of the information interoperability framework
		A42-WP/603*	Coordination mechanism of financial safety monitoring and aviation safety oversight for air carriers
		AN-WP/607*	Implementation status of Aviation System Block Upgrades in China
24	**Aviation Safety and Air Navigation Priority Initiatives**	A42-WP/656	Draft text for the report on Agenda Item 24
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		A42-WP/50*	The activity of the Interstate Aviation Committee in the field of ensuring aviation safety of remotely piloted aircraft
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		A42-WP/62*	Enhancing the integration of remotely piloted aircraft systems (RPAS) safety data into state safety programmes (SSPs)
		A42-WP/63* Revision No. 1	Higher airspace operations
		A42-WP/82	Forward-looking measures to address the challenges of space debris in relation with higher airspace operations (HAO)
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		A42-WP/84*	State safety risk management: a data-driven approach through a State safety risk register
		A42-WP/85	Enhancing standardization in the publication of ILS CAT II/III approach charts: naming and minima
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		A42-WP/94*	Remote aerodrome air traffic services in Saudi Arabia
		A42-WP/106*	Introduction of data link services
		A42-WP/108	Mitigating GNSS vulnerabilities in aviation: strengthening resilience and operational continuity
		A42-WP/110	Fatigue in aviation maintenance environment
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		A42-WP/134	Real-time monitoring and analysis of GNSS interference to enhance aviation safety

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		A42-WP/174	Fatigue management of air traffic controllers
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		A42-WP190	Navigating solar activity: addressing GNSS limitations in equatorial and low-latitude regions
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		A42-WP/204	Global navigation satellite system (GNSS) resilience in a radio frequency interference (RFI) environment
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* Information paper

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		A42-WP/630*	Development and validation of the pace cognitive test battery for aviation

* Information paper

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* Information paper

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