



| ICAO

Doc 10071, A39-TE

ASSEMBLY
THIRTY-NINTH SESSION

Montréal, 27 September – 7 October 2016

TECHNICAL
COMMISSION

REPORT

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



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ASSEMBLY — 39TH SESSION

MONTREAL, 27 SEPTEMBER TO 7 OCTOBER 2016

REPORT OF THE TECHNICAL COMMISSION

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REPORT OF THE TECHNICAL COMMISSION TO THE ASSEMBLY

General

1. The Technical Commission held six meetings between 29 September and 4 October 2016.
2. Mr. G. Harris (New Zealand) was elected Chairman at the Second Plenary Meeting of the Assembly. The Commission, at its first meeting, elected as First Vice-Chairman Mr. P. Henttu (Finland) on a nomination by Brazil and seconded by Singapore. Also based on a nomination by Brazil, seconded by Singapore, the Commission elected as Second Vice-Chairman, Ms. P. Assoumou Koki (Cameroon).
3. Representatives from some 180 Contracting States and 50 Observer Delegations attended one or more meetings of the Commission.
4. The Secretary of the Commission was Mr. S.P. Creamer, Director of the Air Navigation Bureau. Messrs. H. Gourджи, Deputy Director of Monitoring and Oversight, R. MacFarlane, Deputy Director of Air Navigation Capacity and Efficiency, C. Radu, Deputy Director of Aviation Safety served as Deputy Secretaries. The Commission was assisted by Mrs. D. Cooper and also by:

Mr. M. Costa, Chief, Accident Investigation Section (AIG)
Mr. C. Dalton, Chief, Airspace Management and Optimization Section (AMO)
Mr. Y. Wang, Chief, Airport Operations and Interoperability Section (AOI)
Mr. M. Fox, Programme Manager, Crisis and Rapid Response (CRR)
Ms. K. Rooney, Chief Cargo Safety (CSS)
Mr. M. Merens, Chief, Integrated Aviation Analysis (IAA)
Mr. S. Da Silva, Chief, Implementation Planning and Support – Air Navigation (IMP/AN)
Mr. M. Vreedenburgh, Chief, Implementation Planning and Support – Safety Section (IMP/SAF)
Ms. J. Jordaan, Chief, Aviation Medicine Section (MED)
Mr. Y. Fattah, Programme Manager, Multidisciplinary Priorities (MP)
Mr. N. Rallo, Chief, Safety and Air Navigation Oversight Audit Section (OAS)
Mr. M. Marin, Acting Chief, Operations Section (OPS)
Mr. T. Mistos, Chief, Oversight Support Unit (OSU)
Mr. E. Lassooij, Programme Manager, Performance-based Navigation (PBN)
Ms. L. Cary, Programme Manager, Remotely Piloted Aircraft Systems (RPAS)
Ms. E. Gnehm, Programme Coordinator, Safety Management (SM)

and other members of the Secretariat.

Agenda and working arrangements

5. The Assembly had agreed to the suspension of minutes for the Technical Commission of the 39th Session of the Assembly.

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

- Agenda Item 32: Annual Reports of the Council to the Assembly for 2013, 2014 and 2015
- Agenda Item 33: Aviation safety and air navigation monitoring and analysis
- Agenda Item 34: Aviation safety and air navigation policy
- Agenda Item 35: Aviation safety and air navigation standardization
- Agenda Item 36: Aviation safety and air navigation implementation support
- Agenda Item 37: Other issues to be considered by the Technical Commission

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

8. 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 32: Annual Reports of the Council to the Assembly for 2013, 2014 and 2015

32.1 The Technical Commission reviewed those parts of the Annual Reports of the Council to the Assembly for 2013, 2014 and 2015, and the supplementary report covering the first six months of 2016, falling within its field of competence. (The Annual Reports are now in a new online format available at <http://www.icao.int/Meetings/a39/Pages/documentation-reference-documents.aspx>).

32.2 The Commission noted, without comment, the work accomplished in the air navigation field during the past three years, as indicated under the Safety and Air Navigation Capacity and Efficiency Strategic Objectives, and expressed its gratitude.

Agenda Item 33: Aviation safety and air navigation monitoring and analysis

33.1 The Commission reviewed A39-WP/30, presented by the Council, and noted the current status of the objectives, priorities and enablers of the 2014-2016 edition of the *2014-2016 Global Aviation Safety Plan* (GASP, Doc 10004), the priorities of the *2013-2028 Global Air Navigation Plan* (GANP, Doc 9750) and the status and results of Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA). The Commission encouraged States to take action on achieving objectives of the GASP and aligning with the priorities of the GANP and to support the regional aviation safety groups (RASGs) and planning and implementation regional groups (PIRGs) in implementing regional priorities. The Commission also encouraged States to provide data on their progress and status of implementation and urged them to provide timely reports of their progress in implementing USOAP corrective action plans (CAPs) and performing self-assessments on the online framework (OLF).

33.2 The Commission reviewed A39-WP/31, presented by the Council, which reported on progress made on the outcomes of the second High-level Safety Conference (HLSC 2015) and provided updates regarding some additional emerging issues. The Commission recognized the benefit of holding divisional-type meetings as a formal means to recommend inputs for additional technical work to be undertaken by ICAO so that the meeting outcomes could be considered in the context of all other demands as part of the budget approval for the next triennium. The Commission agreed that Council should consider instituting this practice.

Aircraft tracking

33.3 The Commission reviewed A39-WP/290, presented by Singapore, which highlighted the importance of operators developing a capability to track aircraft during abnormal operations. The Commission noted that ICAO was developing guidance on abnormal event monitoring as part of the ongoing work on aircraft tracking, which was planned to be complete by the end of the first quarter of 2017.

33.4 The Commission reviewed A39-WP/168, presented by the African Civil Aviation Commission (AFCAC) on the Global Aeronautical Distress and Safety System (GADSS) Concept of Operations and the expected benefits for search and rescue (SAR) in the Africa-Indian Ocean (AFI) Region. The Commission encouraged ICAO to complete the development of the GADSS Concept of Operations and publish the associated guidance for States. The Commission agreed that ICAO should promote the development of efficient SAR capabilities in the AFI Region, and supported initiatives already underway to achieve this. States were also encouraged to support ICAO's position on the GADSS at the next International Telecommunication Union (ITU) meeting. The Commission was also reminded of the potential suitability of existing space system for search of vessels in distress search and rescue satellite-aided tracking (COSPAS / SARSAT) to assist with implementing the GADSS Concept.

33.5 Information papers, provided by China (A39-WP/274), the United States (A39-WP/269) and the International Mobile Satellite Organization (IMSO) (A39-WP/394), were noted.

Remotely piloted aircraft system (RPAS)

33.6 The Commission reviewed A39-WP/439, presented by Brazil, and A39-WP/303, presented by the Dominican Republic, which addressed the need for guidance material to support safe remotely piloted aircraft systems (RPAS) operations and user-friendly and effective awareness and educational campaigns among unmanned aircraft system (UAS) users.

33.7 The Commission noted A39-WP/281 Revision No. 1, presented by Japan, which introduced an overview of their new rules on unmanned aircraft and requested States to share their unmanned aviation regulations.

33.8 The Commission noted A39-WP/335, presented by China, which outlined the main challenges in China regarding regulation of unmanned aircraft and proposed a cloud-based system for the regulation of small UAS. Concern was raised regarding technical aspects and cyber-resiliency of such a system. The Commission recommended that studies in that regard be conducted and brought to ICAO for further consideration.

33.9 The Commission reviewed A39-WP/103, presented by the United States. The paper addressed the rapidly developing sector of UAS and requested adjustments in the global framework in order to accommodate new non-traditional entrants.

33.10 The Commission reviewed A39-WP/146, presented by Mexico supported by Argentina, Aruba, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay, Venezuela and Brazil, which urged States to give high priority to UAS regulations and oversight within their State safety programme (SSP) and for ICAO to expand its scope of work to include other UAS in the regulatory framework with a properly funded mechanism to accomplish this expansion. The Commission also

reviewed A39-WP/289 Revision No. 1, presented by Singapore, Malaysia, Marshall Islands, New Zealand, Palau, Papua New Guinea and Solomon Islands, which also requested ICAO to lead efforts to harmonize key regulatory practices for small UAS operations.

33.11 The Commission reviewed A39-WP/95, presented by Slovakia on behalf of the European Union (EU) and its Member States¹, the other Member States of the European Civil Aviation Conference (ECAC)²; and by the European Organisation for the Safety of Air Navigation (EUROCONTROL). The paper outlined the importance of establishing a coherent framework for RPAS operations.

33.12 The Commission reviewed A39-WP/116, presented by the Airports Council International (ACI), Civil Air Navigation Services Organisation (CANSO), International Air Transport Association (IATA), International Coordinating Council of Aerospace Industries Associations (ICCAIA), International Federation of Air Line Pilots' Associations (IFALPA), International Federation of Air Traffic Controllers' Associations (IFATCA), the International Council of Aircraft Owner and Pilot Associations (IAOPA), which requested the development of Standards in support of harmonized UAS operations.

33.13 The Commission noted information on the online toolkit being developed by ICAO. The toolkit would include guidance material to support regulators in developing and implementing national regulations. In addition, it would include best practices and examples from States that had regulations in place. The toolkit was expected to be available shortly after the conclusion of the 39th Session of the Assembly.

33.14 The Commission noted wide support for the ICAO work on RPAS and agreed that development of a global baseline of provisions and guidance material for the proper harmonization of regulations on UAS that remain outside of the international instrument flight rules (IFR) framework was justified. In order to facilitate this expansion of ICAO's work programme, an innovative and flexible approach should be adopted, taking into account ongoing developments at national, regional and international levels including the Joint Authorities for Rulemaking on Unmanned Systems (JARUS).

33.15 The Commission agreed that ICAO should develop guidance material to support safe RPAS/UAS operations including awareness and educational campaigns amongst users and to promote the exchange of information amongst States regarding their unmanned aviation regulations. The Commission agreed that the Council should review the proposals with respect to existing priorities funded through the 2017-2019 Budget and the availability of extra-budgetary resources.

33.16 Information papers were provided by Brazil (A39-WP/265), Cuba (A39-WP/454), Indonesia (A39-WP/226), Russian Federation (A39-WP/296 Revision No. 1), United States (A39-WP/82), and Slovakia on behalf of the EU, ECAC and EUROCONTROL (A39-WP/107). A related information paper under Agenda Item 16 was provided by Spain (A39-WP/132).

¹ Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom

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

Conflict zones

33.17 The Commission reviewed A39-WP/108 Revision No. 1, presented by Slovakia on behalf of the EU, ECAC and EUROCONTROL, Australia and Malaysia. The paper outlined proposals to: complete the work programme recommended by the Task Force on Risks to Civil Aviation arising from Conflict Zones (TF RCZ); complement the existing work programme on conflict zones through a review of all relevant Annex provisions; and, upon completion of the work programme on conflict zones, called upon the Council to reconsider the inclusion of conflict zones in the work programme of the Legal Committee. The Commission supported the actions proposed in A39-WP/108 Revision No. 1 and A39-WP/200, presented by CANSO, and agreed the Council should afford priority to the action items in light of the 2017-2019 Budget and the availability of extra-budgetary resources. Furthermore, the Commission highlighted the importance of information sharing and the need for member States to engage in these efforts.

33.18 The Commission reviewed A39-WP/376, presented by the Russian Federation which proposed that the Council reassess the Conflict Zone Information Repository (CZIR) operations to ensure consistency with the Convention and the Code of Conduct for Sharing and Using Safety Information. The paper also outlined a recommendation that the Repository be accessible through a secure website. In light of an existing Council decision directing the Secretariat to consider further improvements to the Repository and to prepare appropriate proposals for consideration during its 209th Session, the Commission agreed that the points raised in this paper be considered by Council in its further deliberations concerning the future status and operation of to the Repository.

33.19 An information paper presented by Slovakia on behalf of the EU ECAC, EUROCONTROL, Australia and Malaysia (A39-WP/297) was noted.

Safety management

33.20 The Commission reviewed A39-WP/283, presented by Brazil, regarding the extension of safety management systems (SMS) applicability to other sectors of aviation. The Commission also reviewed A39-WP/324 and A39-WP/359 presented by Venezuela (Bolivarian Republic of) supporting regional initiatives to establish guidance and a common reference framework for the acceptable level of safety performance (ALoSP) metrics used by States. A39-WP/324 also addressed the challenges faced by States in implementing the recent amendment to Annex 19 — *Safety Management* and updates required to the State safety programme (SSP) gap analysis. Although support was expressed for these proposals, the Commission recognized that relevant expert groups were currently addressing these issues. In addition, the need for each State to consider the unique aspects of its aviation system in establishing the ALoSP was highlighted.

33.21 Working paper A39-WP/342, presented by China, highlighted the results of pilot projects carried out by the Civil Aviation Administration of China (CAAC) related to safety performance management and specific proposals for ICAO to provide additional implementation support. The Commission was informed that work programme items to address the need for additional implementation support were identified pursuant to HLSC 2015, Recommendation 2/1, and States were encouraged to consider means to support the ICAO Safety Management Programme, as indicated in State letter AN 8/3-16/89, dated 27 September 2016.

33.22 The Commission reviewed A39-WP/109, presented by Peru and endorsed by the countries of the South American (SAM) Region and the twenty-two Member States of the Latin American Civil Aviation Commission (LACAC), proposing that the inclusion of SSPs in the scope of

USOAP audits be postponed. The Commission was informed that SSP would only be audited by ICAO on a voluntary but non-confidential basis starting in January 2018 and that, as of 2020, SSP would be audited for the States meeting the criteria to be established by ICAO in line with the GASP. The Commission agreed that ICAO should clarify and communicate this information to all States.

33.23 The Commission reviewed A39-WP/195, presented by CANSO, which contained information on the Standard of Excellence in Air Navigation Services – Safety (SEANS-Safety) programme. The Commission noted and recognized the initiative by CANSO to assist air navigation service providers (ANSPs) in identifying weaknesses in their SMS.

33.24 Information papers were also presented by Cuba (A39-WP/362), India (A39-WP/135), Republic of Korea (A39-WP/420) Spain (A39-WP/419), and the Agency for Air Navigation Safety in Africa and Madagascar (ASECNA) (A39-WP/385).

Monitoring and analysis

33.25 The Commission reviewed A39-WP/285, presented by Brazil, which invited States with high effective implementation (EI) rates and ICAO to provide technical assistance to States with lower EIs rates. The Commission noted that ICAO continuously performed analyses of USOAP results and disseminated them on the integrated Safety Trend Analysis and Reporting System (iSTARS) and through the annual safety and air navigation reports which helped identify specific needs for assistance. The Commission noted the support for the work currently being done under the ICAO IMPLEMENT initiatives and also the direct involvement of ICAO ROs in implementation initiatives. The Commission supported the proposals acknowledging the initiatives already put in place by ICAO, and noted that assistance was also provided by States to each other on a bilateral basis.

33.26 The Commission reviewed A39-WP/190 and A39-WP/192 presented by Canada. A39-WP/190 focused on the value of the information in the USOAP CMA OLF proposing that the OLF be enhanced to allow comparisons of similarities and differences in States' safety oversight systems as a basis for States to reach bilateral agreements. The Commission noted that the Secretariat would continue to make enhancements to the OLF and that this proposed functionality would be considered and prioritized amongst all other design improvements that were planned. The Commission also noted that the information on the OLF would be supplemented by bilateral exchanges between States. A39-WP/192 encouraged States to recognize the value of using the OLF protocol questions (PQs) self-assessment as part of the safety assurance component of their SSP. The Commission agreed that ICAO should continue to inform States about the benefit of using the PQ self-assessment as part of their SSP and promote the value of the information contained in the PQ self-assessment.

33.27 The Commission reviewed A39-WP/197, presented by South Africa, proposing that ICAO review the flight operations inspector experience requirements in the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335). The paper also requested ICAO to not use a minimum of 5 000 flight hours experience as a measure of the suitability of an aviation safety inspector (ASI). The Commission noted advice from the Secretariat that ICAO should not use that criteria in USOAP audits, evaluating the qualification of those inspectors according to States' national requirements. The Commission also noted that the experience for flight operations inspectors in Doc 8335 should be aligned with the new *Manual on the Competencies of Civil Aviation Safety Inspectors* (Doc 10070). The Commission agreed to recommend that ICAO consider amending the minimum number of flight hours experience for flight operations ASI in Doc 8335.

33.28 The Commission reviewed A39-WP/213, presented by Australia, Bangladesh, Chile, France, India, Japan, Malaysia, Nepal, New Zealand, Republic of Korea, Russian Federation, Singapore, Tonga and Vanuatu, which recognized that the USOAP CMA had brought significant benefits to both ICAO and States and had been critical in delivering aviation safety. It acknowledged that in order for the programme to continue being valuable and efficient, ICAO should undertake a review of the USOAP CMA including its processes and methodology. The Commission agreed that ICAO should, using available resources, perform a structured review to identify adjustments to USOAP CMA with a view of the further evolution and strengthening of the programme, taking into consideration the evolving safety strategy of ICAO and States' progress in implementing Annex 19, in particular, SSP requirements. The Commission also agreed that, to ensure sufficient independence and to avoid a possible transition to a permanent oversight function, the review should be conducted by a temporary group composed of selected experts, including from Member States and the Secretariat, under the guidance of the ANC, with the results reported to the ICAO Council. Such a review should be completed in a timely manner in order to be considered for the next triennium budget.

33.29 Information papers were provided by the Republic of Korea (A39-WP/432 and A39-WP/433), Spain (A39-WP/418), Thailand (A39-WP/399) and IATA (A39-WP/126).

Harmonization

33.30 The Commission reviewed A39-WP/115, presented by Chile with the support of Argentina, Bolivia, Brazil, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Uruguay, Suriname, and Venezuela, and A39-WP/142 Revision No. 1, presented by India, that described the progress made to reduce duplication of activities concerning certification and oversight of approved maintenance organizations (AMOs) and approved training organizations (ATOs). The Commission noted the existing ICAO framework for the oversight of ATOs and supported the ongoing work to develop recognition processes for the approval by another State of ATOs, leveraging existing approvals. It recommended that States be urged to use these processes or conclude agreements for recognition with other States. Additionally, the Commission noted and supported the ongoing work by ICAO to facilitate a globally harmonized approach for the approval and recognition or reciprocal acceptance of AMOs and further recommended that States be urged to harmonize their regulations related to AMOs and ATOs

33.31 The Commission reviewed A39-WP/162, presented by the United Arab Emirates, which focused on the need to reduce the regulatory and oversight burden regarding the approval of maintenance organizations. The Commission noted the information, and recognized the benefits of using the Maintenance Organization Review Certificate (MORC) Scheme.

Other issues

33.32 The Commission reviewed A39-WP/220, presented by Indonesia, which contained a case study of the implementation of performance-based navigation (PBN) navigation specifications. The Commission noted the information and recommended that ICAO be requested to continue work on the development of visual guided approaches (VGA) which could be used to facilitate airport access.

33.33 The Commission reviewed A39-WP/113, presented by Chile with the support of Argentina, Bolivia, Brazil, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Suriname, Uruguay and Venezuela (Bolivarian Republic of), which contained a progress report on the attainment of the safety and air navigation goals for 2016 set in the Declaration of Bogota. The Commission acknowledged the concerns expressed in the paper noting that it would not be practical (nor in line with other global statistics) for ICAO to produce statistics based on the attribution of causes or contributing factors to

States involved in an accident or serious incident. Mindful of the needs of the Latin American States, the Commission recommended that the Council consider the development of a system for the validation of data and classification of accidents and incidents on a State or regional basis. Such system should allow for the classification of occurrences based on the causes and contributing factors taking into account existing priorities funded through the 2017-2019 Budget and the availability of extra-budgetary resources.

33.34 The Commission reviewed A39-WP/260 Revision No. 1, presented by Trinidad and Tobago with the support of Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Canada, Costa Rica, Cuba, Curaçao, Dominican Republic, El Salvador, France (French Antilles), Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Netherlands (Bonaire, Saba and Saint Eustatius), Nicaragua, Saint Kitts and Nevis, Saint Lucia, Saint Maarten, Saint Vincent and the Grenadines, Trinidad and Tobago, United Kingdom (Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Montserrat and Turks and Caicos Islands) and the United States, which contained a progress report on measuring performance with regard to its different strategic objectives from the North American, Central American and Caribbean (NAM/CAR) States, and noted the information.

33.35 An information paper provided by Cuba (A39-WP/453) was noted.

Agenda Item 34: Aviation safety and air navigation policy

Global Aviation Safety Plan (GASP)

34.1 The Commission reviewed A39-WP/29, presented by the Council, containing a comprehensive strategy for aviation safety. The paper presented the *2017 – 2019 Global Aviation Safety Plan* (GASP, Doc 10004) for endorsement by the Assembly. The revised GASP maintained continuity with the version endorsed by the Assembly in 2013 and was restructured to incorporate the new global aviation safety roadmap. The goal of the roadmap was to ensure that safety initiatives delivered the intended benefits of the GASP objectives through enhanced coordination, thus reducing inconsistencies and duplication of efforts. The Commission recommended that the Assembly endorse the 2017-2019 edition of the GASP and adopt the resolution proposed in Appendix A to the paper and as amended by the discussion of the Commission, to supersede Assembly Resolution A38-2.

34.2 The Commission reviewed A39-WP/301, presented by the Dominican Republic, A39-WP/85, presented by the United States, and A39-WP/111, presented by Peru and supported by the countries of the South American (SAM) Region and the twenty-two Member States of the Latin American Civil Aviation Commission (LACAC)³, regarding comments on the 2017-2019 edition of the GASP. The Commission agreed on the need to emphasize a stronger relationship between building effective safety oversight and performing operational safety risk management as part of the 2020-2022 update to the GASP, working in closer coordination with Member States, industry, regional aviation safety groups (RASGs) and other stakeholders under the leadership of ICAO. The Commission also agreed on the need to review GASP objectives to best address the unique characteristics of each region and State and to assist in achieving these objectives. The Commission agreed on the need for ICAO to develop a formal global aviation safety programme, including tools, guidance and training materials to assist States and stakeholders to meet the GASP objectives. The Commission further agreed to recommend that the Council be requested to develop appropriate implementation tools taking into account any budgetary implications.

³ Argentina, Aruba, Belize, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of).

34.3 The Commission reviewed A39-WP/92, presented by Slovakia on behalf of the European Union (EU) and its Member States⁴, the other Member States of the European Civil Aviation Conference (ECAC)⁵, and by the European Organisation for the Safety of Air Navigation (EUROCONTROL), regarding enablers for risk-based oversight. In view of the discussion, the Commission agreed on the need to develop the competencies of civil aviation safety inspectors, as well as associated training and guidance material to enable the implementation of risk-based oversight and was informed that this work is already in progress. The Commission agreed that the Council should be requested to consider how to improve the standardization of inspector qualifications and training and help States carry out their safety obligations as required by the Convention and its supporting nineteen Annexes. The Commission also agreed to recommend that the Council consider establishing a systematic review and amendment process as part of the progressive evolution to performance-based Standards and Recommended Practices (SARPs) and guidance material taking into account existing priorities funded through the 2017-2019 Budget and the availability of extra-budgetary resources.

34.4 An information paper presented by the United Kingdom (A39-WP/125) was also noted.

Global Air Navigation Plan (GANP)

34.5 Also under this agenda item was consideration of the Global Air Navigation Plan (GANP, Doc 9750), and the Aviation System Block Upgrades (ASBU) framework as an integral part of it, along with a series of enhancements for the next edition to evolve towards a performance driven strategic planning environment which would take into account regional development and implementation programmes.

34.6 The Commission reviewed A39-WP/39, presented by the Council, and supported by A39-WP/88, presented by Slovakia on behalf of the EU, ECAC and EUROCONTROL, which called for the endorsement of the fifth edition of the Global Air Navigation Plan as the strategic direction for global air navigation and included an amendment to Resolution A38-2: ICAO global planning for safety and air navigation. The Commission recommended that the Assembly endorse the GANP 2016 edition and adoption of the resolution, as proposed in the appendix to the paper and as amended by the discussion of the Commission, to supersede Assembly Resolution A38-2.

34.7 The Commission supported A39-WP/88 which requested ICAO to undertake a number of actions for the next edition of the GANP, including a stronger link with the GASP, formulation of global performance objectives and a global ATM vision consistent with the *Global Air Traffic Management Operational Concept* (Doc 9854), enhancement of the global ATM architecture to increase understanding of the dependencies between the GANP modules and elements, identification of GANP essential improvements based on well-defined criteria, and the expansion of the GANP lifecycle through three-year minor and six-year major updates as relevant. The Commission noted that work on these proposals was already underway.

34.8 The Commission discussed A39-WP304, presented by China, describing China's Strategy for Modernizing Air Traffic Management (CAAMS), which was aligned with the GANP. The

⁴ Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

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

Commission recommended that ICAO consider the CAAMS and other modernization programmes for the development of the next edition of the GANP.

34.9 The Commission reviewed A39-WP/96, presented by Slovakia on behalf of the EU, ECAC and EUROCONTROL. The paper emphasized the need for an integrated view of enablers in the areas of communication, navigation, surveillance (CNS), avionics, information management and flight information exchange to be developed and deployed in a harmonized, synchronized and timely manner. The paper also highlighted the importance of a clear transitional path from legacy systems, including optimization plans. The Commission agreed with the actions proposed and was informed that the proposed actions for ICAO were within the scope of the existing work programme related to the future update of the GANP and ASBU framework.

34.10 Information Papers provided by China (A39-WP/275) and the United States (A39-WP/174) and were noted.

34.11 In light of the discussion, the Commission agreed to submit, for adoption by the Plenary, the following resolution to supersede Assembly Resolution A38-2:

Resolution 34/1: ICAO global planning for safety and air navigation

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

Whereas to realize this goal, the Organization has established Strategic Objectives, including objectives for safety and for capacity and efficiency;

Recognizing the importance of global frameworks to support the Strategic Objectives of ICAO;

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

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 second edition of the Global Aviation Safety Plan (GASP) and of the fifth edition of the Global Air Navigation Plan (GANP);

The Assembly:

1. *Endorses* the second edition of the Global Aviation Safety Plan (GASP) and the fifth edition of the Global Air Navigation Plan (GANP) as the global strategic directions for safety and air navigation, respectively;
2. *Resolves* that ICAO shall implement and keep current the GASP and the GANP to support the relevant Strategic Objectives of the Organization, while ensuring necessary stability;
3. *Resolves* that these global plans shall be implemented and kept current in close cooperation and coordination with all concerned stakeholders;

4. *Resolves* that these global plans shall provide the frameworks in which regional, subregional and national implementation 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 sub-regional 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 application of GASP and GANP objectives 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, avoiding duplication of efforts;
8. *Calls upon* States and invites other stakeholders to cooperate in the development and implementation of regional, sub-regional 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
10. *Declares* that this resolution supersedes Resolution A38-2 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;

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;

Recognizing that the High-level Safety Conference (2010) reaffirmed the need for the ICAO safety framework to continuously evolve to ensure its sustained effectiveness and efficiency in the changing regulatory, economic and technical environment;

Noting that the expected increase in international civil aviation traffic will result in an increasing number of aircraft accidents unless the accident rate is reduced;

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 priorities, targets and indicators to manage safety risks is of paramount importance to the achievement of further improvements in aviation safety;

Recognizing that regional aviation safety groups 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 the safety management principles 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 implementing the safety initiatives presented in the GASP, through a structured, common frame of reference for all relevant stakeholders; and

Noting the need to assist Member States in implementing safety management principles and mitigate risks on identified operational issues;

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, particularly in States where safety records are significantly worse than the worldwide average;
2. *Stresses* that limited resources of the international aviation community should be used strategically to support States or regions whose safety oversight maturity is not at an acceptable level;
3. *Urges* Member States to support the GASP objectives by implementing the safety initiatives outlined therein;
4. *Urges* Member States, regional safety oversight organizations (RSOOs), regional aviation safety groups (RASGs) and international organizations concerned to work with all stakeholders to set priorities, targets and indicators consistent with the GASP objectives with the view to reduce the number and rate of aircraft accidents;
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 operators 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 development of the global aviation safety roadmap, as required.

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 Objectives;

Having adopted Resolution A38-12, 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 for environmental protection; and

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

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. *Urges* the Council to provide States with a standardization roadmap, as announced in the GANP, as a basis for the work programme of ICAO;
3. *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;
4. *Calls upon* States to take into consideration the GANP guidelines as an efficient operational measure for environmental protection;
5. *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 its provisions;
6. *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;
7. *Instructs* the Council to publish the results of the analysis on the regional performance dashboards and in an annual global air navigation report including, as a minimum, the key implementation priorities and accrued environmental benefits estimated using CAEP-recognized methods; and
8. *Urges* States that are developing new generation plans for their own air navigation modernization to coordinate with ICAO and align their plans so as to ensure global compatibility and harmonization.

Agenda Item 35: Aviation safety and air navigation standardization

Standardization with focus on Halon and Annex 8 — *Airworthiness of Aircraft*

35.1 The Commission reviewed A39-WP/35 presented by the Council, which provided a status report on standards-making activities, notably the development of an air navigation work programme and standardization roadmap, and the re-activation of a Standards Roundtable initiative, and discussed the outlook for the next triennium and beyond concerning the development of ICAO provisions. The Commission noted the work undertaken since the 38th Assembly of ICAO and that, subject to prioritization, the Council would continue to undertake Standards-making activities that evolved and

matured in line with the global plans and emerging issues. The Commission also recommended reinforcement of the impact assessment in the SARPs development process and a better accessibility to the air navigation work programme.

35.2 The Commission considered A39-WP/86, presented by the United States, on enhancing the implementation of international aviation provisions. The Commission supported the action proposed in the paper referring to the need to review the processes related to the development and implementation of SARPs and PANS. The paper received wide support and further discussion recognized the benefit of the new impact assessments and the need for ICAO to make maximum use of experience gained by States, industry and other stakeholders on proven concepts, while recognizing the final responsibility of States in the SARPs validation process. This practice was used in the development of the 8th Edition of Annex 6, Part II with industry technical specifications in the standardization process. The importance of SARPs stability to implementation planning was also highlighted. The Commission recognized that several ICAO initiatives were underway that might address the issues raised in the paper and noted that ICAO would take into account A39-WP/86 when progressing those initiatives. The Commission further noted that the paper was also being considered under Agenda Item 27 and agreed to defer to the Executive Committee consideration of the proposed draft Assembly Resolution. The Commission noted the concerns expressed by a few States cautioning against a wider involvement of industry in the SARPs development process.

35.3 The Commission reviewed A39-WP/83 Revision No.1, presented by the United States, which emphasized the criticality of technical trials to the successful implementation of new air navigation procedures and recommended that guidance material on the design and execution of trials of new technologies related to civil aviation in oceanic airspace be developed. The Commission noted that an initial step could be the utilization of best practices in the various regions, and that Annex 11 — *Air Traffic Services* and Annex 15 — *Aeronautical Information Services* contained provisions related to safety assessments, stakeholder consultation and notifications in relation to technical trials. The Commission supported the action proposed and recommended referral to the Council for further consideration.

35.4 A39-WP/87 was withdrawn by the presenting States (United States, Australia, New Zealand and Singapore).

35.5 An information paper was provided by the United States (A39-WP/202).

35.6 The Commission reviewed A39-WP/36, presented by the Council, that contained a progress report on the development of alternatives to halogenated hydrocarbon (halon) for use in civil aviation aircraft fire protection systems. The paper included an amendment to Resolution A38-9 — *Halon replacement* and featured a proposal for the replacement of halon in cargo compartment fire suppression systems for which application for type certification will be submitted after a specified date in the 2024 timeframe.

35.7 A39-WP/90, presented by the International Coordinating Council of Aerospace Industries Associations (ICCAIA), supported the draft resolution as presented in WP/36 and emphasized the commitment by industry to meet a 2024 deadline proposed for the replacement of halon in cargo compartment fire suppression systems.

35.8 A39-WP/90 also provided a report on the progress and challenges in developing viable halon alternatives for aircraft fire suppression systems. In that respect, the paper, along with A39-WP/235 Revision No. 1, presented by ICCAIA, IATA, and IBAC, informed the Assembly that States and industry

would not meet the applicability date for the Standard contained in each Part of Annex 6 — *Operation of Aircraft*, regarding the replacement of halon in portable fire extinguishers, due to a lack of an alternative to halon as well as complex environmental and technical approvals needed to produce and install an alternative agent. The Commission noted the progress made in the development of a viable alternative to halon for portable extinguishers and recognized the efforts made by ICAO to promote the development and use of non-halon alternatives in aircraft fire suppression systems. The Commission further noted that the Annex 6 Standard, if implemented, would adversely impact the operation of aircraft for which a certificate of airworthiness was first issued on, or after, 31 December 2016. In view of the discussion, the Commission agreed to recommend that, as a matter of urgency, the Council use whatever “fast-track” processes available to it to waive the consultation mechanism, shorten the publication cycle and delay the applicability date for the Annex 6 provisions that applied to aircraft for which the individual certificate of airworthiness was first issued on, or after, 31 December 2016. The Commission further agreed to a new applicability date of 31 December 2018 and recommended that the Assembly direct the Council to take action based on that date. Additionally, the Commission recommended that ICAO be directed to develop appropriate guidance to support a harmonized approach that mitigated any challenges faced by affected aircraft during the period when the current provision was applicable and before the new applicability date became effective.

35.9 There was also broad support for a Resolution to supersede Resolution A38-9, as contained in the appendix to WP/36. The importance of intensifying further development and implementation of acceptable halon replacement agents for the civil aviation fire extinguishing system was emphasized during the discussion and strong support was voiced for the strict adherence to the timeframes specified in the draft Assembly resolution. In view of the discussion, the Commission submits, for adoption by the Plenary, the following resolution:

Resolution 35/1: 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. *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
7. *Declares* that this resolution supersedes Resolution A38-9.

Article 21 of the Chicago Convention, cross-border issues, air ambulance operations and Annex 1 — Personnel Licensing and Annex 5 — Units of Measurement to be Used in Air and Ground Operations

35.10 France, in presenting A39-WP/159 on the challenges posed by the implementation of Article 21 of the Chicago Convention, indicated that the substance of the paper related to legal matters which would be considered in the Legal Commission. Consequently, the paper was not discussed in the Technical Commission.

35.11 The Commission considered A39-WP/81, presented by the United States, and A39-WP/237, presented by the Aviation Working Group, which addressed issues related to the increase in cross-border transfers of aircraft. The actions proposed in these working papers were linked to the work considered in A39-WP/159, presented by France, and in A39-WP/123, presented by International Air Transport Association (IATA). In light of the discussion, the Commission acknowledged the complexity of safety oversight obligations by all participants due to the rapid evolution of global aircraft leasing

operations. The Commission supported the actions proposed in A39-WP/81 and A39-WP/237. With respect to a proposal for developing mechanisms to assess and recognize the programmes and products of States, international organizations and aviation stakeholders, the Commission agreed that it be referred to the Council for further consideration and recognized that the aforementioned mechanisms could reduce oversight burden for States.

35.12 The Commission also agreed that the action related to cross-border transferability on the basis of A39-WP/81 and A39-WP/237, while ensuring a high level of safety, should be referred to the Council for further consideration, taking into account existing priorities funded through the 2017-2019 Budget and the availability of extra-budgetary resources. This work should involve expertise from all stakeholders, including the operator industry organizations.

35.13 An information paper was provided by the International Air Transport Association (IATA) (A39-WP/166).

35.14 A39-WP/199, presented by South Africa, addressed the need for research and development of medical SARPs, as well as the establishment of a global air ambulance data collection and analysis system. While the Commission supported the need for research on the safety-related and communicable disease aspects of air ambulance operations, the feasibility of developing air ambulance SARPs and a data collection and analysis system would be referred to the Council for further consideration, taking into account existing priorities funded through the 2017-2019 Budget and the availability of extra-budgetary resources.

35.15 The Commission discussed A39-WP249, presented by Brazil, that provided a case for a revision of the ICAO language proficiency requirements. While the paper presented perspectives that could be taken into account in future revisions of the provisions, the Commission was of the view that it did not present sufficient evidence that existing language proficiency requirements posed a safety threat. It might also be premature to undertake such a revision during the upcoming triennium. Implementation of the language proficiency provisions had required extensive efforts from the States and that changing the requirements at this point would add to the administrative burden since it would require retesting all licence holders in accordance with a revised rating scale. Ongoing support to States was still required and more data on the status of implementation of the language provisions was needed before they could be reviewed. It was determined that the need to revise the language proficiency requirements could be considered once additional implementation data was collected through the different initiatives of ICAO. When that occurred, the opportunity to consider provisions applying to emerging technologies should also be taken.

35.16 The Commission reviewed A39-WP/186, presented by Argentina, and A39-WP/334, presented by China, encouraging ICAO to analyse the feasibility of implementing an electronic personnel licensing system in Annex 1 — *Personnel Licensing* with the objective of improved efficiency. While the Commission acknowledged that work relating to this issue was of a long-term nature, and might require mitigations for potential security concerns, the Commission agreed to recommend referral to the Council the matter of electronic personnel licensing as an alternative option to paper or other suitable material in Annex 1.

35.17 The Commission considered A39-WP/160 presented by United Arab Emirates, which recalled current Annex 5 — *Units of Measurement to be Used in Air and Ground Operations* provisions, providing Contracting States the option of using International System of Units (SI) or, in some cases non-SI units. The paper encouraged States and international organizations to consider the need for a singular set of units of measurement. In light of the discussion, the Commission agreed that no consensus

had been reached on the need for a reconsideration of the current Annex 5 provisions and, consequently, the actions proposed in the working paper were not supported.

35.18 The Commission reviewed A39-WP/104, presented by New Zealand, Australia and Singapore, which recommended that ICAO specify the role of colour recognition in aviation and clarify the application of Standards for the assessment for colour vision deficiency. The Commission acknowledged the complexity of colour vision assessment and its uniform application, which would require ICAO to review the feasibility of harmonization of outcomes of assessments. The Commission supported the paper and agreed that the issue should be referred to the Council for further consideration taking into account existing priorities funded through the 2017-2019 Budget and the availability of extra-budgetary resources.

Annex 13 — Aircraft Accident and Incident Investigation

35.19 A39-WP/257, presented by Argentina, called for the accident investigation authority to have a focal point during investigations for the provision of assistance to aircraft accident victims and their families. The Commission, in noting that the *ICAO Policy on Assistance to Aircraft Accident Victims and their Families* (Doc 9998) and the *Manual on Assistance to Aircraft Accident Victims and their Families* (Doc 9973) already provided guidance for such a focal point, agreed to recommend that the need for the development of associated SARPs be referred to the Council for further consideration.

35.20 A39-WP/255, also presented by Argentina, raised the need for ICAO provisions and guidance material, as necessary, on accident investigation procedures to address environmental care at the site of an accident. The Commission agreed to recommend that the proposal be referred to Council for further consideration, noting the reservations expressed by some States about assigning such responsibilities to accident investigation bodies.

35.21 The Commission reviewed A39-WP/268, presented by the Republic of Korea, which recalled that within the framework of the State Safety Programme “accident and incident investigation” was one element of the “State safety risk management” component and that, in this respect, the scope of application, purpose, and authority for investigation should be better articulated by ICAO for more effective implementation. The Commission agreed to recommend referral of this task, along with the need for SARPs and guidance material on the distinct responsibilities in accident investigation between the investigation authority and the State aviation authority, to the Council for further consideration.

35.22 The Commission, in reviewing A39-WP/272 presented by the Air Crash Victims’ Families’ Federation International (ACVFFI), noted that, consistent with Annex 13 — *Aircraft Accident and Incident Investigation*, safety recommendations addressed to ICAO were sent directly to the Organization, whereas other safety recommendations of global interest were not sent to ICAO. The Commission was informed that the issue of safety recommendations of global concern (SRGC) was first discussed in ICAO during the AIG Divisional Meeting in 2008. Following the development of guidance material in 2011, States were encouraged to submit such recommendations to ICAO where they would be published on an ICAO website now developed and envisaged to be launched in 2017. Mindful that there were no SARPs addressing SRGC in Annex 13 and that relevant ICAO guidance had been published, the Commission agreed to recommend that the proposal be referred to the Council for further consideration. The Commission also noted that A39-WP/94 (Slovakia on behalf of the EU and ECAC States and EUROCONTROL), concerning the need for a more efficient processing and monitoring of actions taken related to safety recommendations would be discussed under Agenda Item 37.

Annex 14 — Aerodromes

35.23 A39-WP/339, presented by the Dominican Republic, described national regulations on certification of aircraft ground handling service providers at airports and invited ICAO to develop related SARPs and guidance material. The Commission, in noting the proactive regulatory measures taken by the Dominican Republic and that the development of guidance material on ground handling was already being progressed by ICAO, agreed that the contents of WP/339 should be brought to the attention of the appropriate expert group.

35.24 The Commission reviewed A39-WP/167, presented by IATA, describing the ongoing work IATA and other industry stakeholders were carrying out to safeguard fuel quality and to promote dissemination of information on fuel quality occurrences among stakeholders. The Commission noted that the multidisciplinary nature of this issue would need to be taken into account in the development of related ICAO provisions in the future.

35.25 The Commission considered A39-WP/282, presented by ACI, CANSO and ICCAIA, that proposed support for the current work being progressed by ICAO on the review of aerodrome design specifications with a focus on sharing of safety data, and acknowledged the need for the sharing of safety information between States, airports, and other organizations to achieve this. The Commission noted that the work being progressed might eventually form the basis for provisions in Annex 14, providing additional efficiency without compromising safety, through a mechanism for reviewing and safeguarding the specific data.

35.26 An information paper was provided by the Interstate Aviation Committee (A39-WP/307).

GNSS, high altitude airports, space weather, RPAS SMS, Remote ATS

35.27 The Commission reviewed A39-WP/333, presented by China, and noted the ongoing deployment of China's Beidou Global Navigation Satellite System (GNSS) and the services Beidou was committed to offering to civil aviation users, including a plan to provide global services by 2020. The Commission also noted that multi-frequency, multi-constellation (MFMC) GNSS, as supported by Beidou and other GNSS core constellations and augmentation systems, would help aviation face the challenges that the single-frequency, single-constellation GNSS encountered today. The Commission was informed that work in support of the introduction of MFMC GNSS was already included in the ICAO work programme.

35.28 The Commission reviewed A39-WP/336 Revision No. 1, also presented by China, that outlined China's regulatory approach to managing challenging flight operations at high altitude airports, often in mountainous terrain. The Commission recalled that although Standards existed in Annex 6 — Operation of Aircraft for flight crew qualifications regarding route and aerodromes, guidance material should be developed for those flight operations given their operational and risk assessment characteristics. The Commission acknowledged that, except for flight crew qualification training at difficult aerodromes, States should not impose other requirements on foreign operators and potentially infringe upon the authority or oversight obligations of the State of the Operator. The Commission agreed to recommend referral of the proposal in the paper to the Council for further consideration.

35.29 An information paper was provided by the Republic of Korea (A39-WP/421).

35.30 The Commission reviewed A39-WP/161, presented by United Arab Emirates (UAE), which described the national regulatory framework developed and implemented by the UAE with respect to safety oversight of heliports, and noted the proactive measures taken by the UAE.

35.31 The United States amended A39-WP/121 as an information paper and consequently there was no discussion of the paper.

35.32 The Commission reviewed A39-WP/302, presented by Venezuela (Bolivarian Republic of), describing lessons learned from the implementation of a safety management systems (SMS) approach to remotely piloted aircraft systems (RPAS). The Commission agreed on the importance of applying safety risk assessment processes to RPAS operations and on the need for a pragmatic and realistic approach to achieve SMS implementation and acceptance. The Commission was informed that the development of SARPs and guidance material, as well as work on the collection and sharing of best practices to support this approach, was already in progress.

35.33 The Commission reviewed A39-WP/263, presented by the International Transport Worker's Federation (ITF), which invited ICAO to commence work on a comprehensive global regulation for the implementation and operation of remote towers. The Commission noted that the existing ICAO work programme already included remote ATS and agreed that the matters raised in the working paper, with the exception of the proposal for the mandatory prohibition of the concept of simultaneous operation, should be provided to the relevant group of experts. Any review should take into account human factors principles and the potential for the utilization of performance-based provisions and guidance. The Commission also recalled that Annex 1 — *Personnel Licensing* outlined the knowledge, experience and skill requirements for an aerodrome control rating, and that the competency-based approach to ATC training was detailed in the *Manual on Air Traffic Controller Competency-based Training and Assessment* (Doc 10056) and was designed to ensure appropriate knowledge and skill requirements were met. The Commission recognized that the Annex 1 provisions would necessarily apply to the aerodrome controllers whether or not the services were delivered from a remote location.

35.34 France, on behalf of the 44 Member States of ECAC, drew the attention of the Technical Commission to the importance of investigating the resilience of modern aviation to exceptionally strong space weather events. France offered to provide ICAO with an initial contribution on this topic.

Agenda Item 36: Aviation safety and air navigation implementation support

Guidance

36.1 The Commission reviewed A39-WP/37, presented by the Council, which reported on impact assessments and implementation task lists introduced over the course of the current triennium for application during the standards-making process and as an activity that can assist implementation. The Commission recognized the value of robust impact assessments and implementation task list and agreed that subject to appropriate prioritization, the ICAO Council should ensure they are improved and more detailed and continue to be utilized into the next triennium, and ensure their continued efficacy through periodic review.

36.2 The Commission reviewed A39-WP/205, presented by Canada, and agreed that the Assembly should support the approaches and efforts outlined in this working paper to put forward strategies to improve States' implementation of Standards and Recommended Practices (SARPs) related to aviation safety. The Commission also reaffirmed the support to the No Country Left Behind (NCLB) initiative that would promote increased compliance with SARPs.

36.3 The Commission considered A39-WP/277 Revision No. 1, presented by Japan, which described how Japan had increased the age limit to 68 years for pilots engaged in domestic multi-crew commercial air transport operations, with appropriate mitigating measures, and also described the implementation of airline health management for pilots in Japan. The Commission noted the information contained in the working paper and commended Japan for establishing requirements for operators to implement a health management system for pilots, thus already fulfilling the requirement in Amendment 173 to Annex 1 — *Personnel Licensing* to “implement appropriate aviation-related health promotion for licence holders subject to a Medical Assessment to reduce future medical risks to flight safety” which would become applicable on 8 November 2018. It further encouraged States to implement similar health management systems for pilots. The Commission also encouraged States to exchange information on upper age limit of commercial pilots and the health management system of each airline.

36.4 A39-WP/216, presented by the International Coordinating Council of Aerospace Industries Associations (ICCAIA), looked at the implementation and impact of required navigation performance (RNP) approach chart name changes. The Commission noted the concerns of some States regarding the implementation of the name change, and also recognized the value of developing a transition plan to manage the change. The Commission also noted a suggestion by the United States that in light of the information presented, a reassessment of the charting specification was warranted. The Commission was informed by the Secretariat that work was already underway to address the RNP chart name issue, including the points raised in the paper. The Commission supported the action items and encouraged ICAO to continue the work in line with these actions to update the guidance available and develop a regionally coordinated transition plan to support the effective rollout of the changes.

Safety information

36.5 The Commission reviewed A39-WP/110, presented by Peru and supported by the countries of the South American (SAM) Region and twenty-two Member States of the Latin American Civil Aviation Commission (LACAC)⁶, related to the implementation of recently adopted provisions in Annex 19 — *Safety Management* on the protection of safety data, safety information and related sources. The Commission recognized the importance of the issues raised in the paper and acknowledged that they were related to the implementation of Amendment 1 to Annex 19. The Commission recommended that ICAO provide implementation support to States through the development of guidance material and regional workshops, including but not limited to right-to-know laws, and other measures to protect safety data and safety information.

36.6 The Commission considered A39-WP/271, presented by the Air Crash Victims’ Families’ Federation International (ACVFFI), which recalled that USOAP audits indicated lack of compliance by many States in establishing an accident investigation authority and ensuring its functional independence, as called for in Annex 13 — *Aircraft Accident and Incident Investigation* and associated guidance material. The Commission was informed that Amendment 15 to Annex 13, which would become applicable on 10 November 2016, required States to establish an independent Accident Investigation authority, and that compliance with such requirement would be identified through USOAP CMA activities starting in January 2018. The Commission agreed that the Council, taking into account existing priorities funded through the 2017-2019 Budget and the availability of extra-budgetary resources,

⁶ Presented by twenty-two Contracting States (Argentina, Aruba, Belize, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of)).

should give consideration to the expansion of AIG guidance material relating to functional independence of States' accident investigation authorities.

36.7 The Commission considered A39-WP/193, presented by the Civil Aviation Air Navigation Services Organization (CANSO), regarding the vital role just culture principles played in a successful safety culture, and supported the actions in the paper.

36.8 The Commission reviewed A39-WP/117, presented by the International Air Transport Association (IATA), which highlighted the importance of State and industry collaboration in establishing safety data collection and processing system (SDCPS) models that meet the needs of a State Safety Programme (SSP), address the concerns of service providers, and adhere to the protection principles as provided in Amendment 1 to Annex 19. The Commission expressed its support for State and industry collaboration in developing SDCPS models that address service provider concerns and adhere to the protection principles as provided in Amendment 1 to Annex 19 and encouraged Member States to implement recently adopted provisions related to the protection of safety data, safety information and related sources.

36.9 The Commission reviewed A39-WP/123 Revision No. 1, presented by IATA, which presented the on-going project for an enhanced ICAO Air Operator Certificate (AOC) Registry database intended to facilitate the process of foreign operators' applications. Despite some uncertainty about the benefits provided by the Registry database, the Commission expressed support for harmonizing AOCs and operations specifications requirements and recommended that States be requested to contribute to the beta testing of an enhanced ICAO AOC Registry and to support its use. The Commission was also informed that the ICAO AOC Registry database was a project underway and was for optional use by the States.

36.10 Information papers were provided by China (A39-WP/408), Nepal (A39-WP/436), Venezuela (A39-WP/314) and the Interstate Aviation Committee (A39-WP/308).

Regional cooperation

36.11 The Commission reviewed A39-WP/38, presented by the Council, which outlined the global implementation support plans and programmes that support the No Country Left Behind initiative and reported on the regional implementation support mechanisms: namely planning and implementation regional groups (PIRGs), regional aviation safety groups (RASGs), and regional safety oversight organizations (RSOOs).

36.12 The Commission agreed that States should be urged to provide sufficient support, including technical expertise, participation and contributions, to the PIRG, RASG and RSOO work programmes and implementation activities. The Commission also recommended that the Council be requested to promote the use of the GANP and GASP by the PIRGs and RASGs, respectively, to achieve global safety, capacity and efficiency objectives and to encourage the sharing of best practices from the PIRGs and RASGs across regions. The Commission also agreed that ICAO should be requested to provide necessary guidance and tools for the implementation of the Global Air Navigation Plan (GANP) and Global Aviation Safety Plan (GASP), when requested by Member States and others.

36.13 The Commission reviewed A39-WP/102, presented by Argentina with the support of Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Uruguay, Suriname, Venezuela (Bolivarian Republic of) and Caribbean Aviation Safety and Security Oversight System (CASSOS)). The Commission noted the establishment of AIG Regional Cooperation Mechanism

(ARCM) of South America and recommended that States and regional accident and incident investigation organizations worldwide consider entering into agreements with the ARCM to strengthen global AIG cooperation and support it in achieving its objectives.

36.14 A39-WP/338, presented by Costa Rica and supported by LACAC, recognized the implementation of a regional safety programme (RSP) for Central American States by ACSA/COCESNA. The Commission recommended that States be encouraged to support the Central American region by participating in the project's activities, by contributing experts, training and documentation, by sponsoring events, and by exchanging safety information, experience, and tools; and encouraged to consider the Agency on Aeronautical Safety for Central America (ACSA) for the provision of assistance to other States and regions in the area of state safety programme (SSP) implementation, including regional safety programme (RSP) development.

36.15 The Commission reviewed A39-WP/367, presented by El Salvador and supported by LACAC. The Commission noted and commended the work undertaken and agreed that States and industry stakeholders should be encouraged to make use of the existing PANS-TRG provisions relating to aircraft maintenance personnel to further harmonize standards of performance regionally and internationally.

36.16 The Commission considered A39-WP/93, presented by Slovakia on behalf of the European Union and its Member States⁷, the other Member States of the European Civil Aviation Conference (ECAC)⁸; and by EUROCONTROL. Noting the potential benefits and efficiency gains, the Commission acknowledged the growing existence of regional aviation systems and other frameworks for regional cooperation among States. It recognized and supported the need to better integrate them in the ICAO context. It also agreed that a review of ICAO provisions and practices should be undertaken, with the involvement of relevant stakeholders, to identify where changes or interpretations would better enable recognition and integration of regional aviation systems, including their RSOO components, and other cooperative arrangements. The Commission agreed to recommend that, subject to budgetary considerations, ICAO be tasked to develop proposals to ensure that provisions and practices take fully into account regional aviation systems. The Commission further agreed to submit for adoption by the Plenary the following Assembly resolution to supersede Resolution A38-5:

Resolution 36-1: Regional cooperation and assistance to resolve safety deficiencies, establishing priorities and setting measurable targets

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;

⁷ Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom

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

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 audits and ICAO Coordinated Validation Missions (ICVMs) conducted under the Universal Safety Oversight Audit Programme Continuous Monitoring Approach (USOAP-CMA) indicate that several Member States have not yet been able to establish a satisfactory national safety oversight system and some Member States have been identified as having significant safety concerns (SSCs);

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 that the ICAO Plans of Action developed for individual Member States serve as platforms to provide, in coordination with other stakeholders, direct assistance and guidance to those 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 Aviation and ICAO Strategic Objectives, 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;

Recognizing that the establishment of subregional and regional aviation safety and safety oversight bodies, including regional safety oversight organizations (RSOOs), has great potential to assist States in complying with 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 system;

Recalling that Member States are responsible for implementing ICAO Standards and may, in this respect, decide on a voluntary basis to delegate certain functions to RSOOs, and that, when applicable, the word “States” should be read to include RSOOs;

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 an international Treaty and would encompass common rules and oversight applicable in the participating 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 Member States, ICAO and other concerned parties in civil aviation operations; and

Recognizing that established regional aviation safety groups (RASGs) have the objective of establishing objectives, priorities and indicators and the setting of measurable targets to address safety-related deficiencies in each region while ensuring consistency of action and coordination of efforts;

The Assembly:

1. *Directs* the Council, in partnership with all aviation safety partners, to implement a comprehensive assistance 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 RASGs, as well as the establishment of objectives, priorities and indicators and the setting of measurable targets to address SSCs and safety-related deficiencies;
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 continue to partner with Member States, industry and other aviation safety partners for coordinating and facilitating the provision of financial and technical assistance to States and subregional and regional safety and safety oversight bodies, including RSOOs and RASGs, in order to enhance safety and strengthen safety oversight capabilities;
5. *Directs* the Council to continue the analysis of relevant safety-critical information for determining effective means of providing assistance to States and subregional and regional safety and safety oversight bodies, including RSOOs and RASGs;
6. *Directs* the Secretary General to continue to foster coordination and cooperation between ICAO, RASGs, RSOOs and other organizations with aviation safety-related activities in order to reduce the burden on States caused by repetitive audits or inspections and to decrease the duplication of monitoring activities;
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 utilize the Flight Procedures Programme, where available, for PBN implementation;
9. *Urges* Member States to develop and further strengthen regional and subregional cooperation in order to promote the highest degree of aviation safety;
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 establish partnerships with other States, industry, financial institutions and other aviation safety partners to strengthen safety oversight capabilities, in order to better discharge State responsibilities and foster a safer international civil aviation system;
12. *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 capability, and to participate in, or provide tangible support for, the strengthening and furtherance of subregional and regional aviation safety and safety oversight bodies, including RSOOs;
13. *Requests* the Secretary General to play a leading role in coordinating efforts to assist States to resolve SSCs through the development of ICAO Plans of Action and/or specific project proposals and to assist States to obtain the necessary financial resources to fund such assistance projects;
14. *Requests* the Council to report to the next ordinary session of the Assembly on the overall implementation of the comprehensive assistance programme; and
15. *Declares* that this resolution supersedes Resolution A38-5.

36.17 The Commission reviewed A39-WP/172, presented by fifty-four Contracting States and members of the African Civil Aviation Commission (AFCAC)⁹, and recognized the achievements made by the AFI Planning and Implementation Regional Group (APIRG) and Regional Aviation Safety Group (RASG-AFI) in addressing their respective terms of reference and endorsed the organization of high-level (DGCA) meetings back-to-back with the APIRG and RASG-AFI meetings which would facilitate ownership of the outcomes and implementation thereof. The Commission agreed that States, industry and donors should be urged to support the implementation of priority activities identified by APIRG and RASG-AFI and encouraged all Member States to provide the necessary support and technical expertise to their respective PIRGs and RASGs.

36.18 Information papers were provided by: Argentina (A39-WP/188); Jamaica with the support of Aruba, Bahamas, Cayman Islands, Curacao, Dominican Republic, Haiti, Mexico, Panama, Saint Maarten, United States and COCESNA on behalf of all Central American States (A39-WP/389); Jamaica on behalf of the CASSOS Members States: Barbados, Guyana, Haiti, Jamaica, the OECS, Suriname and Trinidad and Tobago (A39-WP/396 and A39-WP/398); Slovakia on behalf of the EU and its Member States, the other Member States of the ECAC and by EUROCONTROL (A39-WP/415); Turkey and United Kingdom (A39-WP/124); the Agency for Air Navigation Safety in Africa and Madagascar (ASECNA) (A39-WP/386); and IATA (A39-WP/309).

Aerodromes

36.19 A39-WP/295, presented by Egypt, addressed the topic of minimum qualification requirements for key aerodrome personnel, in the context of aerodrome certification. The Commission

⁹ Presented by 54 Contracting States (Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, the Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, the Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, the 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, Swaziland, Togo, Tunisia, Uganda, the United Republic of Tanzania, Zambia and Zimbabwe).

supported the actions taken by the Egyptian Civil Aviation Authority (ECAA) to identify the key areas of operational safety competency for aerodrome operators in the context of aerodrome certification.

36.20 The Commission reviewed A39-WP/332, presented by Egypt, which outlined the activities conducted in Egypt in relation to heliport certification. The Commission acknowledged the initiatives taken by Egypt. Also presented by Egypt was A39-WP/378, which related to a regional approach for the management of obstacle limitation surfaces. The Commission acknowledged the approach by Egypt and its overall positive impact on the safety of operations and agreed that ICAO should undertake further analysis through the already established groups of experts.

36.21 A39-WP/143 and A39-WP/144, presented by India, called for updating and reviewing parts of Doc 9137, *Airport Services Manual, Part 2 — Pavement Surface Conditions*, in order to reflect recent developments and best practices concerning rubber removal from runways, and to remove inconsistencies found in the document. The Commission was informed that Doc 9137, Part 2, was planned to be updated as part of Amendment 13 to Annex 14, Volume I, concerning the new global reporting format for runway surface condition assessment and reporting and agreed that the proposals by India should be considered for inclusion during the update of Doc 9137, Part 2.

36.22 The Commission considered A39-WP/158, presented by the United Arab Emirates (UAE), which described their activities in the Middle East (MID) Region to support ICAO's global initiatives, including the "No Country Left Behind" (NCLB) initiative, runway safety activities, and participation in training and support missions. The Commission noted and supported the United Arab Emirates activities.

36.23 The Commission reviewed A39-WP/437, presented by the United States, which highlighted the importance of international aerodrome certification programmes and the ICAO efforts in this area and proposed further development of relevant guidance material. The Commission noted the recent publication of PANS-Aerodromes in relation to this matter. The Commission acknowledged the actions proposed and was informed that ICAO was already addressing the subject of aerodrome certification through development of procedures for air navigation services and guidance material. The Commission recommended that ICAO be requested to consider the contents of the paper in future updates of provisions, as well as the offer by the United States to assist ICAO in its efforts.

36.24 An information paper was provided by the Interstate Aviation Committee (A39-WP/122).

Aviation system block upgrades (ASBUs)

36.25 The Commission reviewed A39-WP/341, presented by the Dominican Republic, and recognized the importance of defining performance targets instead of implementation targets at national, regional and global levels in order to follow a performance-based approach to define national implementation strategies as recommended by ICAO. Therefore, the Commission agreed that there was a need for ICAO to define global performance objectives for the GANP 2019 edition and subsequent regional performance targets. The Commission also noted the lack of performance results from ASBU elements implementation and recommended that ICAO be encouraged to make use of the already existing tools to monitor, collect, analyse and report these results taking into account the proposal in the paper and the performance framework of the GANP.

36.26 The Commission supported A39-WP/276 and A39-WP/278, presented by Japan. A39-WP/276 proposed advancing the concept of minimum path described in the fifth edition of the *Global Air Navigation Plan (GANP, Doc 9750)*. The Commission recognized the importance of defining

a feasible minimum path and welcomed the recommendations in A39-WP/276. A39-WP/278 outlined the long-term vision for future air traffic systems in Japan within the context of the Collaborative Actions for Renovation of Air Traffic Systems (CARATS), and involving international collaboration, to address technical issues and improve air navigation services towards the achievement of trajectory-based operations in alignment with the GANP. The Commission encouraged States to collaboratively research and deploy technologies in support of the GANP.

36.27 The Commission reviewed A39-WP/239, presented by Canada and the United States, that outlined their approach to defining specific technological or procedural implementations associated with each ASBU module in order to identify which would contribute to the aviation improvements required for their operational environments. The Commission acknowledged the difficulty faced by States in understanding ASBU modules and elements and agreed with the proposal to identify ASBU elements in order to increase global understanding. The Commission was informed that ICAO was developing a web-based application, as part of the development of the GANP 2019 edition, that would provide an update of the ASBU framework, including the identification of ASBU elements and enablers, and would assist States to define implementation strategies. The Commission supported ICAO's continued development of this web-based application.

36.28 The Commission discussed A39-WP/358 Revision No. 1, also presented by Canada and the United States, which called for endorsement of a proposed standardized methodology for assessing and reporting ASBU implementation to support timely identification of implementation challenges and provide more precise information concerning the capabilities being implemented by States and ICAO Regions. The Commission emphasized the importance of a performance-based approach and the need for a globally applicable, performance-based decision-making method to assist States in defining strategies for a cost-effective implementation of air navigation improvements. The Commission agreed on the importance of a coherent reporting structure to track the progress of groups of States in implementing agreed programmes to support their performance requirements, but requested that any global implementation reporting regime take account of existing reporting arrangements. The Commission recommended that ICAO be requested to consider the proposed methodology within the scope of the GANP 2019 developments.

36.29 Information papers were provided by China (A39-WP/405); Honduras (A39-WP/441); Slovakia on behalf of the European Union and its Member States, the other Member States of the European Civil Aviation Conference and by EUROCONTROL (A39-WP/97); and ASECNA (A39-WP/379).

Air navigation services (ANS)

36.30 The Commission considered A39-WP/266, presented by Brazil, and acknowledged the preparedness of Brazil's national search and rescue (SAR) system through regular exercises and encouraged all administrations to conduct regular SAR exercises. The Commission agreed with the recommendations to share knowledge and to address SAR matters in a systematic manner, all of which were consistent with the Annex 12 SARPs as well as IAMSAR guidance.

36.31 The Commission considered A39-WP/452, presented by the Russian Federation, which presented information on the current status of the Russian GLONASS GNSS constellation and issues associated with international regulatory control of the use of multiple GNSS constellations. The Commission agreed to recommend that the matter be referred to Council for further consideration.

36.32 The Commission reviewed A39-WP/118, presented by IATA, IAOPA, IBAC, IFALPA and IFATCA, discussing the impact on flight and ATM operations from harmful interference to GNSS. The Commission acknowledged the concerns expressed in the paper, particularly in light of the critical role of GNSS in supporting performance-based navigation (PBN) and automatic-dependent surveillance – broadcast (ADS-B). The Commission also noted that ICAO guidance material on GNSS interference mitigation was currently available in the *Global Navigation Satellite System (GNSS) Manual* (Doc 9849), and that an enhanced version of the guidance was being developed, and it recommended that A39-WP/118 be referred to the relevant expert working group for its information and consideration.

36.33 The Commission reviewed A39-WP/243 Revision No. 2, presented by Thailand on behalf of Australia, China, Indonesia, Lao People's Democratic Republic, Malaysia, Philippines, Singapore, Thailand, CANSO and IATA, which detailed the collaborative effort by the States in the Asia Pacific Region in the implementation of the distributed multi-nodal air traffic flow management (ATFM) network. The Commission agreed that the distributed multi-nodal ATFM network was one of the solutions to implement cross-border ATFM and that the concept should be considered in the review of the *Manual on Collaborative Air Traffic Flow Management* (Doc 9971).

36.34 The Commission reviewed A39-WP/245, presented by Singapore and supported by CANSO and IATA, which highlighted the need for enhanced integration between MET and ATM service provision and called for stronger collaboration and joint innovation between MET authorities and ANSPs. The Commission agreed that Member States should consider adopting the proposed MET and ATM integration framework on a national level and that ICAO and WMO should continue to provide strategic guidance for MET and ATM integration.

36.35 Information papers were provided by China (A39-WP/400, A39-WP/401, A39-WP/402, A39-WP/403, A39-WP/404, A39-WP/405 and A39-WP/409); Sudan (A39-WP/391 Revision No. 1); Russian Federation (A39-WP/344 and A39-WP/345); Slovakia on behalf of EU, ECAC and EUROCONTROL (A39-WP/89); ASECNA (A39-WP/384) and the Interstate Aviation Committee (IAC) (A39-WP/390).

Emerging issues

36.36 The Commission reviewed A39-WP/99 Revision No. 1, presented by the United States and Slovakia on behalf of the European Union and its Member States, the other Member States of the European Civil Aviation Conference, and EUROCONTROL, which highlighted the need for additional efforts to increase global awareness of cyber-threats and vulnerabilities in aviation, and that States should consider the development of guidelines for managing current and future cyber-threats and vulnerabilities. The Commission also reviewed A39-WP/236 Revision No. 1, presented by ICCAIA, which noted Assembly Resolution A38-15 and the ongoing work of the Industry High-level Group, and called on ICAO to establish an expert group to steer and coordinate work on cybersecurity, cyber-safety and cyber-resilience.

36.37 The Commission noted that actions a) and c) of A39-WP/99 Revision No. 1 had been discussed under Agenda Item 16, Aviation Security Policy. Regarding actions b) and d), the Commission agreed on the need to increase the promotion and awareness of cyber-threats and vulnerabilities and, in particular, the need to take cyber-resilience into account at the organizational level through safety management systems, as well as at the State level in State Safety Programmes and, where appropriate, regional aviation safety programmes. The Commission further agreed to recommend that ICAO develop provisions for managing current and future cyber-threats and vulnerabilities. Regarding action e) of A39-WP/99 Revision No. 1, which was supported by A39-WP/236 Revision No. 1, the Commission

strongly agreed to recommend that ICAO lead and seek to attain a comprehensive cybersecurity, cyber-safety and cyber-resilience work plan and steering structure with all relevant stakeholders.

36.38 The Commission reviewed A39-WP/194, presented by CANSO, on the Project Loon and noted that ICAO had initiated work on enhancing current Standards regarding unmanned free balloons. It was noted that this paper had also been discussed under Agenda Item 29, United Nations 2030 Agenda – Sustainable Development Goals (SDGs).

36.39 Information papers were provided by China (A39-WP/406 and A39-WP/407), the United States (A39-WP/337) and the International Federation of Air Traffic Safety Electronics Associations (IFATSEA) (A39-WP/370).

Agenda Item 37: Other issues to be considered by the Technical Commission

Critical incident stress management, Annex 1 — *Personnel Licensing, competency-based training and flight tracking*

37.1 The Commission reviewed A39-WP/253, presented by Argentina, which addressed the benefits of air traffic services providers offering stress management in critical incident programmes to air traffic services professionals. The Commission agreed that benefits could be expected from such programmes and agreed that this subject should be borne in mind by the appropriate expert groups, as appropriate, in future updates to ICAO provisions.

37.2 A39-WP/106, presented by Slovakia on behalf of the European Union (EU) and its Member States¹⁰, the other Member States of the European Civil Aviation Conference (ECAC)¹¹; and by the European Organisation for the Safety of Air Navigation (EUROCONTROL), called for an analysis and review of the adequacy of the current ICAO framework relating to evaluation of flight crew mental fitness. This was in response to a number of accidents where flight crew mental health condition was identified as a causal factor. The Commission, in acknowledging the desirability for ICAO to analyse and review the current ICAO framework and that coordination with appropriate international organizations would be necessary, agreed to recommend referral of the proposal to the Council for further consideration taking into account existing priorities funded through the 2017-2019 Budget and the availability of extra-budgetary resources.

37.3 The Commission reviewed A39-WP/129, presented by India, and A39-WP/298, presented by International Federation of Air Traffic Safety Electronics Associations (IFATSEA), that proposed that licensing requirements for air traffic safety electronic personnel (ATSEP) be developed for Annex 1 — *Personnel Licensing*. The Commission also reviewed A39-WP/368 Revision No. 1 and Corrigendum No. 1 (in French only), presented by Ghana, which proposed the inclusion of licencing requirements in Annex 1 for all emerging aviation professions, including those for which competencies had been included in the *Procedures for Air Navigation Services — Training* (PANS-TRG, Doc 9868). The Commission recalled that similar proposals for ATSEPs had been the subject of discussions during the 36th, 37th and 38th Sessions of the Assembly. The Commission had noted on those occasions that training provided the competency, while licensing was only one of the means to provide evidence of such

¹⁰ Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom

¹¹ Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine

competency. The Commission also recalled that ICAO had developed competency-based procedures for ATSEPs in the PANS-TRG that would raise and harmonize the level of competencies while allowing States to implement a flexible approach to competency-based training. Introducing an ATSEP licence would remove such flexibility and add to the administrative burden of States. In addition, the Commission recognized that such a development could negatively impact the work of the air navigation services providers (ANSPs) at a time when the safety benefits accrued from PANS-TRG competency-based training and assessment for ATSEPs had not yet been determined. The Commission noted that there was no evidence that the lack of an ATSEP licence impacted safety. Therefore, the Commission did not support the proposal to introduce Standards into Annex 1 for ATSEPs or for any aviation function other than those related to flight crew, maintenance personnel, air traffic controllers and flight dispatchers. The Commission, however, agreed that the work on PANS-TRG should be pursued as planned, recognizing the wide support for the implementation of competency-based approaches to training and assessment of aviation functions.

37.4 The Commission considered A39-WP/393, presented by International Federation of Airline Dispatchers Associations (IFALDA), which called upon ICAO to take a competency-based approach to amending ICAO documentation for flight dispatchers. The Commission recognized the important role that flight dispatchers played in flight tracking procedures and noted IFALDA's support for the current work on PANS-TRG. The Commission also supported the development of competency-based procedures in PANS-TRG for flight dispatchers and guidance material, as necessary, and recommended referral to the Council for further consideration taking into account existing priorities funded through the 2017-2019 Budget and the availability of extra-budgetary resources

37.5 Information papers were provided by Slovakia on behalf of the EU, ECAC and EUROCONTROL (A39-WP/196) and the Interstate Aviation Committee (IAC) (A39-WP/366).

Child restraint systems, dynamic variable taxi time (VTT), wind shear and aerodrome certification database

37.6 The Commission reviewed A39-WP/214, presented by Canada, which recommended the promotion of international harmonization for the use of child restraint systems (CRS) as a follow-up to the publication of the *ICAO Manual on the Approval and Use of Child Restraint Systems* (Doc 10049). It also called for harmonization on the use of CRS and ensuring an acceptable level of safety for infants and young children travelling by air. A39-WP/300, presented by the International Transport Workers' Federation (ITF) and also related to CRS, recommended the development of guidance material for the mutual recognition of CRS approvals between States and urged ICAO to encourage implementation of the guidance in Doc 10049. It also called for promotional campaigns on the use of CRS by States and industry to help raise the awareness and use of CRS on board aircraft. In view of the discussion, the Commission supported the need to develop provisions with respect to CRS, including the mutual recognition of CRS approvals between States, and agreed to recommend referral of the matter to the Council for further consideration taking into account existing priorities funded through the 2017-2019 Budget and the availability of extra-budgetary resources.

37.7 A39-WP/286, presented by India, provided information on a new method of calculating variable taxi time (VTT), known as dynamic VTT, as an enhancement to the fixed calculation method commonly used at airports where airport — collaborative decision making (A-CDM) was implemented. The paper also proposed mandating the use of dynamic VTT based on local factors to reduce the deviation from target take-off time. The Commission noted the relevance of tailoring taxi time calculations to the specific conditions at a given aerodrome and, given that A-CDM was already on the

work programme of the Organization, the Commission agreed that the contents of the paper should be brought to the attention of the appropriate expert group.

37.8 The Commission reviewed A39-WP/287, presented by the Russian Federation, which addressed the global status of developing and using ground-based low level wind shear detection systems and recommended further work to standardize these systems. The Commission noted that the *Manual on Low-Level Wind Shear* (Doc 9817) contained extensive guidance material to assist in the understanding of this meteorological phenomenon and in the implementation of related provisions contained in Annex 3 — *Meteorological Service for International Air Navigation*. The Commission agreed that the proposal warranted further study, with a focus on expanding upon existing guidance material rather than requirements and recommended referral to the Council for further consideration, subject to the availability of resources.

37.9 The Commission reviewed A39-WP/241, presented by the United States, which requested support for ICAO to collect and maintain a centralized database on certification status of individual aerodromes, taking into account national legislation on aerodrome certification. The Commission acknowledged that, depending on the platform used, the resource implications of such a database could be significant and that the proposal was not within the current work programme of ICAO. Nevertheless, the Commission agreed that the proposal warranted further study, including the extent to which the Regional Air Navigation Plans could play a role in making such information widely available, and agreed to recommend that it be referred to the Council for further consideration, taking into account existing priorities funded through the 2017-2019 Budget and the availability of extra-budgetary resources.

Annex 13 — Aircraft Accident and Incident Investigation and the Arabic translation of “dangerous goods”

37.10 The Commission reviewed A39-WP/94, presented by Slovakia on behalf of the EU, ECAC and EUROCONTROL, concerning the need for a more efficient processing and monitoring of actions taken related to safety recommendations. It called on ICAO to identify such possibilities and, where relevant, to propose amendments to Annex 13 — *Aircraft Accident and Incident Investigation*. In voicing support for the paper, and in recalling the discussion and action taken with respect to A39-WP/272 under Agenda Item 35, the Commission agreed to recommend that the proposal for ICAO to adopt a process for identifying the Safety Recommendations of Global Concern (SRGC) be referred to the Council for further consideration. The Commission also agreed that the elements related to the processing and monitoring of safety recommendations be forwarded to the appropriate expert group.

37.11 An information paper provided by the Interstate Aviation Committee (IAC) (A39-WP/365) was noted.

37.12 The Commission reviewed A39-WP/157, presented by the United Arab Emirates, which recommended a change to the Arabic translation of the term “dangerous goods” when referenced in ICAO documentation. The Commission agreed that a change might be necessary but that the issue should first be raised by ICAO at the United Nations Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals prior to considering any changes to ICAO documentation. This would allow for harmonization with the United Nations Recommendations on the Transport of Dangerous Goods: Model Regulations, which was the document on which Annex 18 — *The Safe Transport of Dangerous Goods by Air* and the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) were based.

37.13 Information papers were provided by Argentina (A39-WP/176 and A39-WP/178), India (A39-WP/128), Indonesia (A39-WP/221), Kiribati (A39-WP/217), United Arab Emirates (A39-WP/318 and A39-WP/319), the United States (A39-WP/434 and A39-WP/435) and the International Air Cargo Association (TIACA) (A39-WP/388).

APPENDIX

LIST OF DOCUMENTS AND WORKING PAPER ASSOCIATED WITH THE WORK OF THE TECHNICAL COMMISSION

List of documents

Document	Title
	Annual Reports of the Council to the assembly for 2013, 2014 and 2015 and the Supplement http://www.icao.int/Meetings/a39/Pages/documentation-reference-documents.aspx)
Doc 10056	<i>Manual on Air Traffic Controller Competency-based Training and Assessment</i>
Doc 10049	<i>Manual on the Approval and Use of Child Restraint Systems</i>
Doc 10007	<i>Report of the Twelfth Air Navigation Conference (AN-Conf/12)</i>
Doc 10004	<i>Global Aviation Safety Plan (GASP)</i>
Doc 9971	<i>Manual on Collaborative Air Traffic Flow Management</i>
Doc 9868	<i>Procedures for Air Navigation Services — Training</i>
Doc 9849	<i>Global Navigation Satellite System (GNSS) Manual</i>
Doc 9817	<i>Manual on Low-Level Wind Shear</i>
Doc 9750	<i>Global Air Navigation Plan (GANP)</i>
Doc 9284	<i>Technical Instructions for the Safe Transport of Dangerous Goods by Air</i>
Doc 9137	<i>Airport Services Manual, Part 2 — Pavement Surface Conditions</i>
Doc 8335	<i>Manual of Procedures for Operations Inspection, Certification and Continued Surveillance</i>

List of working papers

Item No.	Subject	No.	Working Paper Presented by	Draft text for the report	Report
32	Annual Reports of the Council to the Assembly for 2013, 2014 and 2015			A39-WP/473	A39-WP/512
33	Aviation safety and air navigation monitoring and analysis	A39-WP/30 A39-WP/31 A39-WP/82* A39-WP/95 A39-WP/103 A39-WP/107* A39-WP/108 Revision No. 1 A39-WP/109	United States Slovakia** United States Slovakia** Slovakia** and by Australia and Malaysia Peru; endorsed by the Countries of the SAM Region and the Member States of LACAC	A39-WP/474 + Addendum No. 1	A39-WP/512

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		A39-WP/113	Chile with the support of Argentina, Bolivia, Brazil, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Uruguay, Suriname and Venezuela		
		A39-WP/115	Chile, with the support of Argentina, Bolivia, Brazil, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Uruguay, Suriname, and Venezuela		
		A39-WP/116	ACI		
		A39-WP/126*	IATA		
		A39-WP/135*	India		
		A39-WP/142	India		
		Revision No. 1			
		A39-WP/146	Mexico, supported by Argentina, Aruba, Belize, Bolivia, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Panamá, Paraguay, Perú, Dominican Republic, Uruguay and Venezuela		
		A39-WP/162	United Arab Emirates		
		A39-WP/168	AFCAC**		
		A39-WP/190	Canada		
		A39-WP/192	Canada		
		A39-WP/195	CANSO		
		A39-WP/197	South Africa		
		A39-WP/200	CANSO		
		A39-WP/213	Australia, Bangladesh, Chile,		

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		A39-WP/220	CANSO		
		A39-WP/226*	Indonesia		
		A39-WP/260	Trinidad and Tobago with the support of Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Canada, Costa Rica, Cuba, Curaçao, Dominican Republic, El Salvador, France (French Antilles), Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Netherlands (Bonaire, Saba and Saint Eustatius), Nicaragua, Saint Kitts and Nevis, Saint Lucia, Saint Maarten, Saint Vincent and the Grenadines, Trinidad and Tobago, United Kingdom (Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Montserrat and Turks and Caicos Islands) and the United States		
		Revision No. 1	Brazil		
		A39-WP/265*			

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		A39-WP/281	Japan		
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		A39-WP/285	Brazil		
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		A39-WP/296*	Russian Federation		
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		A39-WP/297*	Slovakia**, and by Australia and Malaysia		
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34	Aviation safety and air navigation policy	A39-WP/29, A39-WP/39 A39-WP/85 A39-WP/88 A39-WP/92 A39-WP/96	United States Slovakia** Slovakia** Slovakia**	A39-WP/475	A39-WP/513

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		A39-WP/161	United Arab Emirates		
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36	Aviation safety and air navigation implementation support	A39-WP/37, A39-WP/38		A39-WP/477	A39-WP/515
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		A39-WP/144	India		
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		A39-WP/434*	United States		
		A39-WP/435*	United States		

— END —

* Information Paper

** Presented by Slovakia, on behalf of the European Union (EU) and its Member States, and by the other Member States of the European Civil Aviation Conference (ECAC), and by EUROCONTROL.

*** Presented by Jamaica on behalf of the CASSOS Members States: Barbados, Guyana, Haiti, Jamaica, the OECS (Antigua and Barbuda, Grenada, Saint Lucia, Saint Kitts and Nevis and Saint Vincent and the Grenadines), Suriname and Trinidad and Tobago.

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