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ASSEMBLY — 38TH SESSION

REPORT OF THE TECHNICAL COMMISSION ON AGENDA ITEM 34

(Presented by the Chairman of the Technical Commission)

The attached report on Agenda Item 34 has been approved by the Technical Commission. Resolutions 34/1, 34/2 and 34/3 are recommended for adoption by the Plenary.

Note.— After removal of this covering sheet, this paper should be inserted in the appropriate place in the report folder.

(25 pages)

Agenda Item 34: Air Navigation — Monitoring and Analysis

34.1 The Commission reviewed A38-WP/87, presented by the Council, addressing air navigation performance measurement, monitoring and reporting. The paper presented the ways and means to report the progress of regional implementation through a planned online system referred to as the regional performance dashboard which will also support an annual Global Air Navigation Report.

34.2 A38-WP/87 was broadly supported. With regard to monitoring and analysis tools a number of States emphasized that there should be the possibility of using their own tools as long as these met ICAO needs. The Commission agreed that this issue should be addressed in the *Draft resolution to supersede resolution A37-4 and to incorporate and supersede resolution A37-12*, Appendix B — *Global Air Navigation Plan (GANP)* (Appendix B of A38-WP/39) the fifth resolving clause.

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 on 30 July 2013 by the Council of the first edition of the Global Aviation Safety Plan (GASP) and on 29 May 2013 of the fourth edition of the Global Air Navigation Plan (GANP);

The Assembly:

1. *Endorses* the first edition of the Global Aviation Safety Plan (GASP) and the fourth 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;
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 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, subregional and national plans based on the frameworks of the GASP and GANP;
9. *Instructs* the Council to provide a report on the implementation and evolution of the GASP and GANP to future regular sessions of the Assembly;
10. *Instructs* the Secretary General to promote, make available and effectively communicate the GASP and the GANP; and
11. *Declares* that this Assembly resolution supersedes Assembly Resolution A37-4 on ICAO global planning for safety and Assembly Resolution A37-12 on ICAO Global planning for sustainability.

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; 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 and where political willingness exists to improve safety oversight functions;
3. *Urges* Member States to support the Global Aviation Safety Plan (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. *Urges* ICAO to complete the development of safety roadmaps in support of the GASP by the end of 2014 to assist in the risk mitigation of operational issues identified.

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 A37-15, 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.

34.3 An information paper was provided by Viet Nam (A38-WP/347).

34.4 The Commission reviewed A38-WP/89, presented by the Council, addressing the ICAO policy on radio frequency matters. The paper recalled the regulatory framework associated with the international agreements on the allocation and use of the radio frequency spectrum laid out in the International Telecommunication Union (ITU) Radio Regulations and, in particular, the process for updating such agreements at ITU World Radiocommunication Conferences (WRC) of which the next would take place in 2015. The paper reaffirmed the need for Member States to support the ICAO position on aviation requirements for spectrum at the WRC. The paper also proposed updates to the ICAO policies on radio frequency matters contained in Assembly Resolution A36-25, taking into account Recommendation 1/12 of the Twelfth Air Navigation Conference (AN-Conf/12).

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

Resolution 34/2: Support of the ICAO Policy on radio frequency spectrum matters

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

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

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

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

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

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

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

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

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

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

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

* APT: Asia-Pacific Telecommunity; ASMG: Arab Spectrum Management Group; ATU: African Telecommunications Union; CEPT: the European Conference of Postal and Telecommunications Administrations; CITEL: Comisión Interamericana de Telecomunicaciones; RCC: Regional Commonwealth in the field of Communications.

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

The Assembly:

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

- a) working together to deliver efficient aeronautical frequency management and “best practices” to demonstrate the effectiveness and relevance of the aviation industry in spectrum management;
- b) supporting ICAO activities relating to the aviation frequency spectrum strategy and policy through relevant expert group meetings and regional planning groups;
- c) undertaking to provide for aviation interests to be fully integrated in the development of their positions presented to regional telecommunications fora involved in the preparation of joint proposals to the WRC;
- d) including in their proposals to the WRC, to the extent possible, material consistent with the ICAO position;
- e) supporting the ICAO position and the ICAO policy statements at ITU WRCs as approved by Council and incorporated in the *Handbook on Radio Frequency Spectrum Requirements for Civil Aviation* (Doc 9718);
- f) undertaking to provide civil aviation experts to fully participate in the development of States’ and regional positions and development of aviation interests at the ITU; and
- g) ensuring, to the maximum extent possible, that their delegations to regional conferences, ITU study groups and WRCs include experts from their civil aviation authorities and other civil aviation stakeholders who are fully prepared to represent aviation interests;

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

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

4. *Declares* that this resolution supersedes Resolution A36-25.

34.6 The Commission considered A38-WP/363, presented by Canada which elaborated on the expected benefits from extending the use of automatic dependent surveillance – broadcast (ADS-B) to encompass oceanic, polar and other remote regions through the use of space-based reception of ADS-B data from aircraft. This innovative approach was being actively explored, with initial operational capability foreseen for 2017. The Commission noted the potential benefits of space based ADS-B and the related need for an appropriate radio regulatory allocation status of the 1090 MHz aircraft to satellite uplink.

34.7 The Commission also noted that the matter of a potential allocation to receive ADS-B by satellite had recently been brought to the attention to the ITU Radiocommunication Sector and the Air Navigation Commissions' Aeronautical Communications Panel – Working Group F (Frequency), which is the relevant group of experts within the framework of ICAO. In terms of the ICAO Position, which had been approved by Council following a formal review by Contracting States and relevant International Organizations, it was foreseen that an update might be needed to reflect the outcome of ongoing WRC-15 preparatory studies. Such an update would include consideration of the ADS-B issue, as appropriate.

34.8 A38-WP/97, presented by the United States of America and Canada, addressed an issue related to Agenda Item 1.5 of the ITU WRC-15, which called for studies of the use of fixed-satellite service (FSS) systems for command and control (C2) links, termed control and non-payload communication (CNPC) in ITU documentation, for remotely piloted aircraft systems (RPAS), termed unmanned aircraft systems (UAS) in ITU documentation.

34.9 Noting the pressures on the limited amount of available spectrum, the Commission agreed on the need to consider innovative means of meeting the spectrum demand for C2 systems. However, if parts of the spectrum currently used for non-safety of life services were to be used, it was absolutely essential that appropriate studies be conducted to ensure that there were no unintended consequences; it would seriously undermine the overall aviation position in future World Radio Conferences, where aviation actively sought to protect safety of life services from incursion by other parties, if insufficient regard were to be paid to the same requirements from within the aviation community.

34.10 In conclusion, the Commission recommended to the Assembly that Member States and ICAO should support studies in the International Telecommunication Union Radio Communication Sector (ITU-R) to ensure that the safety of life concerns could be sufficiently addressed. The outcome of these studies would have to provide the necessary assurance that there were no undue implications for other aeronautical systems. Provided this was the case, then it could be determined what ITU regulatory actions would be required to enable use of frequency bands allocated to the fixed-satellite service (FSS) for RPAS command and control links to ensure consistency with ICAO technical and regulatory requirements for a safety service.

34.11 The Commission reviewed A38-WP/356, presented by African Civil Aviation Commission (AFCAC) on behalf of the fifty-four African States, and took note of the need for the appropriate technical and regulatory protection of the C-band 3400-4200 MHz required for the operation of FSS-based aeronautical very small aperture terminal (VSAT) networks, used in support of the air navigation service within the AFI Region as well as its neighbouring regions (MID, EUR, SAM, APAC).

34.12 The Commission agreed that ICAO Member States should support this important issue when addressed by ITU WRC-15 (WRC-15 Agenda Items 1.1 and 9.1.5) and requested that ICAO, in cooperation with the relevant stakeholders, continue addressing this issue during the on-going ITU WRC-15 preparatory studies in order to find a suitable solution for the protection of the C-band operated by aeronautical VSAT Networks.

34.13 An information paper was provided by New Zealand (A38-WP/119).

34.14 The Commission reviewed A38-WP/86, presented by the Council, in accordance with Resolution A15/9, which requires that the Assembly adopt, at each regular session for which a Technical Commission is established, a consolidated statement of continuing ICAO policies and associated practices

related specifically to air navigation. The Commission agreed to the changes proposed in Appendix A of A38-WP/86.

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

Resolution 34/3: Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation

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

Whereas a statement of continuing policies and associated practices related specifically to air navigation as they existed at the end of the 37th Session of the Assembly was adopted by the Assembly in Resolution A37-15, Appendices A to W inclusive;

Whereas the Assembly has reviewed proposals by the Council for the amendment of the statement of continuing policies and associated practices in Resolution A37-15, Appendices A to W inclusive, and has amended the statement to reflect the decisions taken during the 38th Session;

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

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

Whereas the Assembly agreed to develop a new Resolution 38-XX based on Resolution A37-15 Appendices A, D and E, as a continuing policy in respect to formulation and implementation of Standards and Recommended Practices (SARPs), Procedures for Air Navigation Services (PANS) and notification of differences that would apply to all Annexes to the Convention and technical guidance material;

The Assembly:

1. *Resolves* that:
 - a) the Appendices attached to this resolution constitute the consolidated statement of continuing air navigation policies and associated practices of ICAO as they exist at the close of the 38th Session of the Assembly; and
 - b) the practices associated with the individual policies in the appendices constitute guidance intended to facilitate and ensure implementation of the respective policies; and
2. *Declares* that this resolution supersedes Resolution A37-15 with its Appendices, except for Appendices A, D and E which are superseded by the new Resolution A38-xx.

APPENDIX A

Air navigation meetings of worldwide scope

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

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

The Assembly resolves that:

1. meetings, convened by the Council, in which all Contracting States may participate on an equal basis shall be the principal means of progressing the resolution of problems of worldwide import, including the development of amendments to the Annexes and other basic documents in the air navigation field;
2. such meetings shall be convened only when justified by the number and importance of the problems to be dealt with and when there is the likelihood of constructive action on them; meetings convened on this basis may also be requested to conduct exploratory discussions on matters not mature for definite action;
3. the organization of such meetings shall be arranged so that they are best suited to carry out the assigned task and to provide proper coordination among the technical specialities involved; and
4. unless necessitated by extraordinary circumstances, not more than two such meetings shall be convened in a calendar year, and successive meetings dealing extensively with the same technical specialty shall be separated by at least twelve months.

Associated practices

1. Before deciding to refer a matter to a worldwide meeting, the Council should consider whether correspondence with States or use of machinery such as panels or air navigation study groups could dispose of it or facilitate subsequent action on it by a future meeting.
2. The agenda should be sufficiently explicit to define the task to be performed and to indicate the types of specialized expertise that will be needed at the meeting. In an agenda including more than one technical specialty the types of expertise called for should be kept to the minimum compatible with efficiency.
3. To facilitate the participation of all Contracting States, the Council should so plan the meeting programme as to keep to the minimum, consistent with efficiency, the demands upon the time of States' technical officials.
4. The planned duration of a meeting should allow adequate time for completion of the agenda, study of the report as drafted in the working languages of the meeting and approval of the report. Following the meeting, the Secretariat should make any necessary minor editorial amendments and typographical corrections to the meeting report.
5. The approved agenda and the main supporting documentation should be dispatched, normally by air, not less than ten months in advance of the convening date in the case of the agenda and not less than

three months in the case of the main supporting documentation; other documentation should be dispatched as soon as possible.

APPENDIX B

Panels of the Air Navigation Commission (ANC)

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

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

The Assembly resolves that:

1. the Air Navigation Commission shall establish panels if necessary to advance the solution of specialized technical problems which cannot be solved adequately or expeditiously by the Air Navigation Commission through other established facilities;
2. the Air Navigation Commission shall ensure that the terms of reference and the work programmes of panels shall support the ICAO Strategic Objectives, be clear and concise with timelines and shall be adhered to;
3. the Air Navigation Commission shall review periodically the progress of panels and shall terminate panels as soon as the activities assigned to them have been accomplished. A panel shall be allowed to continue in existence only if its continuation is considered justified by the Air Navigation Commission; and
4. panel activity shall support a performance-based approach to SARPs development to the extent possible.

Associated practice

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

APPENDIX C

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

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

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

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

The Assembly resolves that:

1. certificates of airworthiness and certificates of competency and licences of the flight crew of an aircraft issued or rendered valid by the Contracting State in which the aircraft is registered shall be recognized as valid by other Contracting States for the purpose of flight over their territories, including landings and take-offs, subject to the provisions of Articles 32 (b) and 33 of the Convention; and
2. pending the coming into force of international Standards respecting particular categories of aircraft or flight crew, and certificates issued or rendered valid, under national regulations, by the Contracting State in which the aircraft is registered shall be recognized by other Contracting States for the purpose of flight over their territories, including landings and take-offs.

APPENDIX D

Qualified and Competent Aviation Personnel

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

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

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

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

The Assembly resolves that:

1. ICAO shall assist Contracting States in achieving and maintaining competency of aviation personnel through the ICAO Aviation Training Programme;
2. The ICAO Aviation Training Programme shall be governed by the following principles:
 - a) qualification of aviation professionals is the responsibility of Contracting States;
 - b) the highest priority is placed on learning activities that support the implementation of SARPs;
 - c) cooperation with Contracting States and industry is essential to develop and implement learning activities to support the implementation of SARPs; and
 - d) priority shall be placed on cultivating the next generation of aviation professionals.
3. ICAO advises operators of training facilities but does not participate in the operation of such facilities; and

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

Associated practices

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

- a) data analysis to determine priorities and needs;
- b) identified training needs for the implementation of ICAO provisions; and
- c) a competency-based approach.

APPENDIX E

Formulation and Implementation of Regional Plans including Regional Supplementary Procedures

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

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

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

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

The Assembly resolves that:

1. Regional Plans shall be revised when it becomes apparent that they are no longer consistent with current and foreseen requirements of international civil aviation;
2. when the nature of a required change permits, the associated amendment of the Regional Plan shall be undertaken by correspondence between ICAO and Contracting States and International Organizations concerned; and
3. when amendment proposals are associated with the services and facilities provided by States and such amendment proposals:
 - a) do not represent changes to the requirements set by the Council in the Regional Plans;
 - b) do not conflict with established ICAO policy; and
 - c) do not involve issues which cannot be resolved at the regional level;

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

1. Regional Air Navigation (RAN) meetings, although important instruments in the determination of the facilities and services, shall be convened only to address issues which cannot be adequately addressed through the Planning and Implementation Regional Groups (PIRGs);
2. Priority shall be given in the implementation programmes of Contracting States to the provision, and continuing operation of those facilities and services, the lack of which would likely have an adverse effect on international air operations;
3. the identification and investigation of and action by ICAO on significant deficiencies in the implementation of Regional Plans shall be carried out in the minimum practicable time; and
4. Planning and Implementation Regional Groups (PIRGs), using a project management approach, shall identify problems and shortcomings in Regional Plans and in the implementation thereof, along with suggested remedial measures.

Associated practices

1. The Council should ensure that the structure and format of regional plans is aligned with the Global Air Navigation Plan and is in support of a performance-based approach to planning.
2. In assessing the urgency of any revision of the Regional Plans the Council should take into account the time needed by Contracting States to arrange for the provision of any necessary additional facilities and services.
3. The Council should ensure that implementation dates in Regional Plans involving the procurement of new types of equipment are realistically related to the ready availability of suitable equipment.
4. The Council should ensure that web based regional plans are developed, with supporting planning tools, in order to improve efficiency and expedite the amendment cycle.
5. The Council should use the Planning and Implementation Regional Groups (PIRGs) it has established throughout the regions to assist in keeping up to date the Regional Plans and any complementary documents.

APPENDIX F

Regional air navigation (RAN) meetings

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

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

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

Considering that regional air navigation planning is normally accomplished by Planning and Implementation Regional Groups (PIRGs);

The Assembly resolves that:

1. RAN meetings shall be convened only to address issues which cannot be adequately addressed through PIRGs;
2. the convening of such meetings and their agenda shall be based on the existence or expectation of specific shortcomings in the Regional Plans of the respective areas;
3. the geographical area to be considered, account being taken of the existing and planned international air transport and international general aviation operations, the technical fields to be dealt with and the languages to be used shall be decided for each such meeting;
4. the organization best suited to deal with the agenda and to ensure effective coordination among the components of the meeting shall be used for each such meeting; and
5. meetings of limited technical and/or geographical scope shall be convened when specific problems, particularly those requiring urgent solution, need to be dealt with or when convening them will reduce the frequency with which full scale RAN meetings must be held.

Associated practices

1. The Council should endeavour to hold RAN meetings at sites within the areas concerned and should encourage the Contracting States within those areas to serve as host, either individually or jointly.
2. The approved agenda and the main supporting documentation should be made available, by electronic means, not less than ten months in advance of the convening date in the case of the agenda and not less than three months in the case of the main supporting documentation.
3. The Council should ensure that adequate guidance is made available to RAN meetings on operational and technical matters relevant to their agenda.
4. Each participating Contracting State should inform itself, in advance of a meeting, on the plans of its air transport operators and its international general aviation for future operations and, similarly, on the expected traffic by other aircraft on its registry and on the overall requirements of these various categories of aviation for facilities and services.
5. The Council, taking into account the requirement to improve still further existing safety levels, should foster the establishment, for and by RAN meetings, of up-to-date planning criteria which would aim to ensure that Regional Plans satisfy the operational requirements and are economically justified.
6. The Council should develop and maintain specific and detailed directives for consideration of implementation matters at RAN meetings.

APPENDIX G

Delimitation of air traffic services (ATS) airspaces*

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

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

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

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

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

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

1. the limits of ATS airspaces, whether over States' territories or over the high seas, shall be established on the basis of technical and operational considerations with the aim of ensuring safety and optimizing efficiency and economy for both providers and users of the services;
2. established ATS airspaces should not be segmented for reasons other than technical, operational, safety and efficiency considerations;
3. if any ATS airspaces need to extend over the territories of two or more States, or parts thereof, agreement thereon should be negotiated between the States concerned, taking into account the need for cost-effective introduction and operation of CNS/ATM systems, and more efficient airspace management, in particular, in the upper airspace;
4. the providing State in implementing air traffic services within airspace over the territory of the delegating State shall do so in accordance with the requirements of the delegating State, which shall establish and maintain in operation such facilities and services for the use of the providing State as are mutually agreed to be necessary;
5. any delegation of responsibility by one State to another or any assignment of responsibility over the high seas shall be limited to technical and operational functions pertaining to the safety and regularity of the air traffic operating in the airspace concerned;

and, *furthermore*, declares that:

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

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

Associated practices

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

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

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

APPENDIX H

Provision of search and rescue services

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

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

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

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

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

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

The Assembly resolves that:

1. search and rescue regions, whether over States' territories or, in accordance with regional air navigation agreement, over an area greater than a State's sovereign airspace or over the high seas, shall be delimited on the basis of technical and operational considerations, including the desirability of coincident flight information regions, search and rescue regions, and, with respect to areas over the high seas, maritime search and rescue regions, with the aim of ensuring safety, and optimizing efficiency with the least overall cost;
2. States shall ensure the closest practicable cooperation between maritime and aeronautical search and rescue services where they serve the same area and, where practical, establish joint rescue coordination centres to coordinate aeronautical and maritime search and rescue operations;
3. if any search and rescue regions need to extend over the territories of two or more States, or parts thereof, agreement thereon should be negotiated between the States concerned;
4. the providing State in implementing search and rescue services over the territory of the delegating State shall do so in accordance with the requirements of the delegating State, which shall establish and maintain in operation such facilities and services for the use of the providing State as are mutually agreed to be necessary;
5. any delegation of responsibility by one State to another or any assignment of responsibility over the high seas shall be limited to technical and operational functions pertaining to the provision of search and rescue services in the area concerned;
6. remedies to any inadequacies in the provision of efficient search and rescue services, including over the high seas, should be sought through negotiations with States which may be able to give operational or financial assistance in search and rescue operations, with a view to concluding agreements to that effect;

and, furthermore, declares that:

7. any Contracting State which delegates to another State the responsibility for providing search and rescue services within its territory does so without derogation of its sovereignty; and
8. the approval by Council of regional air navigation agreements relating to the provision by a State of search and rescue services within areas over the high seas does not imply recognition of sovereignty of that State over the area concerned.

Associated practices

1. Contracting States should, in cooperation with other States and ICAO, seek the most efficient delineation of search and rescue regions and consider, as necessary, pooling available resources or establishing jointly a single search and rescue organization to be responsible for the provision of search and rescue services within areas extending over the territories of two or more States or over the high seas.
2. The Council should encourage States whose air coverage of the search and rescue regions for which they are responsible cannot be ensured because of a lack of adequate facilities, to request assistance

from other States to remedy the situation and to negotiate agreements with appropriate States regarding the assistance to be provided during search and rescue operations.

APPENDIX I

Coordination and cooperation of civil and military air traffic

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

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

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

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

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

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

The Assembly resolves that:

1. the common use by civil and military aviation of airspace and of certain facilities and services shall be arranged so as to ensure the safety, regularity and efficiency of civil aviation as well as to ensure the requirements of military air traffic are met;
2. the regulations and procedures established by Contracting States to govern the operation of their state aircraft over the high seas shall ensure that these operations do not compromise the safety, regularity and efficiency of international civil air traffic and that, to the extent practicable, these operations comply with the rules of the air in Annex 2;
3. the Secretary General shall provide guidance on best practices for civil/military coordination and cooperation;
4. Contracting States may include, when appropriate, representatives of military authorities in their delegations to ICAO meetings; and

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

Associated practices

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

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

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

APPENDIX J

The provision of adequate aerodromes

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

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

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

Whereas many serious problems can be avoided if the operating requirements of new aircraft are such as to permit them to operate economically without further demands on the physical characteristics of aerodromes;

Whereas the operation of aerodromes has many advantages, environmental considerations have imposed limitations upon the operation of aircraft at some locations. In view of the capacity problems currently experienced globally, account should be taken of the introduction into service of newer quieter aircraft;

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

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

The Assembly resolves that:

1. the technical requirements for aerodromes shall be kept under review by ICAO;
2. there is a need for future generations of aircraft to be designed so that they are capable of being operated efficiently, and with the least possible environmental disturbance, from aerodromes used for the operation of present-day aircraft;
3. States should take necessary measures, including the allocation of adequate resources, to improve the level of implementation of aerodrome certification, including SMS at aerodromes; and
4. States should place greater emphasis on the management of aerodrome operations, with runway safety given a high priority.

Associated practices

1. In the light of the results of the continuing review mentioned in Resolving Clause 1 above, the Council, taking into account the requirement to improve still further existing safety levels and efficiency, should:
 - a) develop additional guidance material on future developments;
 - b) develop procedures for the management of aerodrome operations; and
 - c) keep Contracting States informed of developments.
2. The Council should continue to draw the attention of aircraft manufacturers and operators to the policy expressed in Resolving Clause 2.

APPENDIX K

Adequate conditions of employment for aviation ground personnel

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

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

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

APPENDIX L

Participation by States in the technical work of ICAO

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

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

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

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

Associated practices

1. The Council should encourage effective participation by Contracting States in the technical work of ICAO, paying due regard to the need to minimize the cost to ICAO and Contracting States of such participation.
2. Insofar as each may find it practicable, Contracting States should:
 - a) assist, by correspondence, in advancing ICAO technical projects;
 - b) attend ICAO meetings and participate actively in pre-meeting preparations, particularly by presenting advance documentation containing either specific proposals relative to items of the agenda or their views on documentation submitted to them;
 - c) participate in ICAO panel activities and ensure that their nominees are suitably qualified and are able to contribute effectively to the panel work;
 - d) undertake specialized studies as requested by ICAO; and
 - e) assist ICAO in its technical work through any other means the Council may devise.

APPENDIX M

The Headquarters' and Regional Offices' technical Secretariat

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

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

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

The Assembly resolves that:

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

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

Associated practices

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

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

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

APPENDIX N

Cooperation among Contracting States in investigations of aircraft accidents

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

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

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

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

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

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

The Assembly resolves to recommend that Contracting States cooperate in the investigation of aircraft accidents, especially accidents in which the investigation requires highly specialized experts and facilities

and that to this end Contracting States and regional accident and incident investigation organizations (RAIOs), to the extent possible, inter alia:

- a) provide, on request by other Contracting States, expert assistance and facilities for the investigation of major aircraft accidents; and
- b) afford opportunity to Contracting States seeking investigation experience to attend investigations of aircraft accidents, in the interest of developing and furthering investigation expertise.

Associated practices

1. Contracting States are encouraged to support the convening of regional accident investigation workshops with a view to exchanging information on each State's investigation legislation and procedures, on the sharing of knowledge and expertise in investigation management and techniques, on the availability of experts and facilities and on practices in dealing with encountered accident investigation difficulties.
2. Contracting States should be encouraged to facilitate the participation of investigators of accident investigation authorities as observers in investigations in other States for training purposes and orientation visits.
3. Contracting States and RAIOs are encouraged to assess their needs and capabilities in the field of aircraft accident investigation and prevention with a view to developing training curricula for basic accident investigation and prevention courses. The use of regional training centres for such courses should be fully explored as well as the incorporation of the TRAINAIR PLUS methodology which provides for internationally standardized and competency-based training.
4. Contracting States are encouraged to refer to the model Memorandum of Understanding (MOU) developed by ICAO in 2007 for use by States to encourage mutual cooperation during the investigation of aircraft accidents and serious incidents. The model MOU is available on the ICAO public website.
5. Contracting States are encouraged to consider, as necessary, the ICAO Manual on Regional Accident and Incident Investigation Organization (Doc 9946) which provides guidance on how to establish and manage a regional accident and incident investigation system within a region or subregion.

APPENDIX O

Human performance

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

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

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

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

The Assembly resolves that:

1. Contracting States ensure the integration of human performance considerations in the planning, design, and implementation of new technologies, systems and processes as part of a safety management approach;
2. Contracting States promote and facilitate the integration of human performance elements within competency-based training programmes throughout the career of a professional; and
3. Contracting States include strategies which promote safe, consistent, efficient and effective operational performance of the individual and across teams of individuals to address safety priorities.

34.16 The Commission considered A38-WP/216, presented by CANSO, which acknowledged that the way airspace is structured and designed, and air traffic services are organized and provided, has a direct impact on capacity and efficiency. In the context of Appendix G – Delimitation of air traffic services airspaces to the revised Resolution A37-15 on a Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation, CANSO was of the view that greater visibility of the capacity and efficiency challenges to air navigation in certain regions could be a positive step to their resolution and suggested that this subject be covered in the proposed annual ICAO Global Air Navigation Report.

34.17 The Commission recognized the importance of, and the role played by, the resolving clauses and associated practices in Appendix G in establishing airspace on the basis of technical and operational considerations with the aim of ensuring safety and optimizing efficiency. On this basis, the Commission agreed that clearly identifying capacity and efficiency challenges in the proposed annual ICAO Global Air Navigation Report, including potential cooperative arrangements between States, could lead to improved air navigation performance.

— END —