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## **ASSEMBLY — 38TH SESSION**

### **REPORT OF THE TECHNICAL COMMISSION ON AGENDA ITEMS 35, 36, 37 AND 38**

(Presented by the Chairman of the Technical Commission)

The attached report on Agenda Items 35, 36, 37 and 38 has been approved by the Technical Commission. Resolution 37/1 is 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.*

(11 pages)

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**Agenda Item 35: Air Navigation — Implementation Support**

35.1 The Commission reviewed A38-WP/88, presented by the Council, related to regional priorities and targets for air navigation and agreed on the need to prioritize regional implementation of the operational improvements for air navigation through Aviation System Block Upgrade (ASBU) modules. The Commission requested the Council to instruct planning and implementation regional groups (PIRGs) to: establish, consistent with Recommendations 6/1 and 6/12 of the Twelfth Air Navigation Conference, priorities and targets for air navigation by May 2014; share successful initiatives among one another; utilize specific interface groups, where required, for addressing the harmonization of air navigation plans in adjacent areas of PIRGs; and develop a coordination mechanism in each region between the PIRGs and regional aviation safety groups (RASGs) to ensure consistency of action and avoid overlap.

35.2 The Commission noted that based on the revised Global Air Navigation Plan (GANP) and ASBU framework, the following regional actions were required by mid-2014, aligned with global requirements but flexible for regional variations and avoiding duplication of efforts: revision of regional air navigation plans and associated implementation plans; alignment of the PIRGs terms of references and work programmes; establishment of regional implementation priorities, indicators, metrics and targets; measurement, monitoring and reporting of implementation through the regional performance dashboards; and inclusion of regional results in the Global Air Navigation Report.

35.3 The Commission noted that the following will support achieving the regional actions outlined in 3.5.2: prioritize and select operational improvements and ASBU block modules; cooperate and collaborate for efficient and effective regional implementation; coordinate between PIRGs and RASGs in the same region for synergies and to avoid duplication; and harmonize and share lessons learned and best practices between PIRGs in different regions.

35.4 The Commission reviewed A38-WP/312, presented by Colombia; noting that Colombia supported and applied the approach of operational improvements in the ASBUs and their development of fifteen ASBU modules according to operational needs. The Commission noted the work underway to develop a common set of indicators to allow harmonized reporting and the evaluation of objectives for operational improvements.

35.5 The Commission reviewed A38-WP/259, previously presented under Agenda Item 30 by the Latin American Civil Aviation Commission (LACAC), and urged States to support the regional efforts in South America for the safe and orderly development of civil aviation through the setting of goals for 2016 in the areas of operational safety and air navigation.

35.6 The Commission reviewed A38-WP/355, also presented by LACAC, related to support received and continuation thereof for implementation of a regional ATM system, taking into account the ATM operational concept and the corresponding communication, navigation and surveillance technological support for the implementation of the Global Air Navigation Plan. In the paper, LACAC encouraged States and the international aviation community to note the good model used which was supported by ICAO.

35.7 The Commission reviewed A38-WP/211, presented by the African Civil Aviation Commission (AFCAC), which provided proposals to extend the benefits of research and development (R&D) to developing regions and to promote cooperation and collaboration including the coordination of operational R&D activities with regional civil aviation commissions.

35.8 The Commission reviewed A38-WP/212, also presented by the AFCAC, on the mitigation of global navigation satellite system (GNSS) vulnerabilities. The paper called for ICAO, in cooperation with relevant stakeholders, to address the GNSS implementation strategy in the regions where no universal augmentation system was deployed.

35.9 The Commission reviewed A38-WP247 Revision No. 1, presented by the Agency for Air Navigation Safety in Africa and Madagascar (ASECNA), and noted the progress of performance-based navigation (PBN) implementation in the AFI Region and commended ICAO for implementing a Flight Procedures Programme (FPP) Office to assist the States with expediting implementation. It acknowledged that an FPP could only be successful through commitment and support by the Region's States, as also discussed under Agenda Item 37.

35.10 The Commission reviewed A38-WP/195, presented by the Civil Air Navigation Services Organisation (CANSO), which addressed the need for the PIRGs, States, air navigation service providers (ANSPs) and operators to establish priorities and targets consistent with the GANP. The Commission took note of the proposal for a needs and dependency analysis (NDA) and a proposal for training on subjects such as the NDA, business case development and cost-benefit analysis.

35.11 Information papers were provided by United States (A38-WP/146), Central American Corporation for Air Navigation Services (COCESNA) (A38-WP/233) and Lithuania on behalf of the EU, ECAC and EUROCONTROL (A38-WP/282).

35.12 The Commission reviewed A38-WP/162, presented by Singapore, and urged States to actively participate in and support air traffic management (ATM) modernization in the regions through innovation and collaboration. The Commission also supported the need for a framework to coordinate ATM modernization efforts across the regions for global harmonization and interoperability.

35.13 The Commission reviewed A38-WP/253, presented by ASECNA, and noted the actions undertaken by ASECNA within the framework of the improvement of the aeronautical mobile service using remote very high frequency (VHF) and other services linked via very small aperture terminal (VSAT).

35.14 Information papers were provided by China (A38-WP/210), India (A38-WP/341 and A38-WP/344) and ASECNA (A38-WP/244).

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**Agenda Item 36: Air Navigation — Emerging Issues**

36.1 The Commission reviewed A38-WP/121, presented by Nepal, which called for the provision of Standards that identify the necessary type approval or design certification requirements for air traffic services (ATS) equipment design conformance with established human factors principles. The Commission also reviewed A38-WP/243, presented by Venezuela (Bolivarian Republic of), related to guidance documentation for the certification of air navigation services. The Commission considered: the difficulties in establishing such Standards and guidance where currently no precedent exists; the potential for inhibition of innovation and competition; and the need for extensive work to support the development of such Standards when resources were extremely limited. There was some support for the intent expressed in both of these papers but the Commission observed that the budget requirements would not allow progress in the next triennium without significant SAFE Fund donations by one or more States for this work.

36.2 The Commission reviewed A38-WP/265, presented by the United Arab Emirates, which recommended further standardization of digital data exchange under ICAO coordination and development of guidance and training material aimed at increasing the interoperability and the exchange of the aeronautical data.

36.3 The Commission recalled that Amendment 37 to Annex 15 — *Aeronautical Information Services*, to be applicable on 14 November 2013, contained expanded performance specifications relating to the digital exchange of aeronautical information and that this approach had been taken so as not to inhibit the continuing development of the aeronautical information eXchange model (AIXM) data exchange model. The Commission noted that while the objective of adopting a specific exchange model was increased standardization and interoperability, it would involve to developing, implementing and maintaining a detailed technical standard. In this connection, the Commission also recalled Assembly Resolution A37/15 which recommended that the ICAO Council should promote the development and upkeep of broad system-level, functional and performance requirements and should continue seeking the most appropriate means of development, translation, processing and dissemination of technical specifications. In consideration of the recommendations to further improve the harmonization and the interoperability of the digital aeronautical data exchange, the Commission would refer these to the Council of ICAO for consideration by the expert groups currently developing Standards and Recommended Practices (SARPs) and guidance for the further transition from aeronautical information service (AIS) to aeronautical information management (AIM) and the development and implementation of system-wide information management (SWIM).

36.4 Information papers were provided by China (A38-WP/190 and WP/192), Iran (Islamic Republic of) (A38-WP/281) and ASECNA (WP/241).

36.5 The Commission reviewed A38-WP/337, presented by the Russian Federation, which provided information on the Russian Federation's concept of the use of self-organizing airborne networks to support integration of remotely piloted aircraft into civil controlled airspace. The Commission noted the potential benefits of the concept and the relationship to AN-Conf/12 Recommendation 1/10, Automatic dependent surveillance – self-organizing wireless data networks. The Commission requested that the ICAO Council study the proposal as part of the next revision of the Global Air Navigation Plan.

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**Agenda Item 37: Progress on Implementation of the Comprehensive Regional Implementation Plan for Aviation Safety in Africa (AFI Plan)**

37.1 The Commission reviewed A38-WP/67, presented by the Council, which provided a progress report on the Comprehensive Regional Implementation Plan for Aviation Safety in Africa (AFI Plan), including details on the achievements reached in its implementation under the lead of the ICAO Regional Offices in Dakar, Senegal and Nairobi, Kenya. Support was expressed for the paper and, recognizing that more efforts were needed to address significant safety concerns (SSCs) and safety-related deficiencies in the AFI Region, the Commission encouraged ICAO and aviation safety partners to provide assistance to African States in overcoming such deficiencies. The paper also outlined the requirements needed for the continuation and expansion of the AFI Plan in the next triennium, based on the decisions and targets adopted during the Ministerial Conference on Aviation Safety held in Abuja, Nigeria in July 2012 and later endorsed by the Assembly of Heads of States of the African Union in January 2013.

37.2 It was recalled that during an earlier discussion under Agenda Item 35: Air Navigation — Implementation Support (WP/247), the Commission had asked States in the AFI Region to provide personnel resources and/or financial support, as a matter of urgency, to expedite the establishment of the Flight Procedures Programme (FPP) Office with full operational capability. In this regard, the Commission agreed to incorporate this into the draft resolution presented in A38-WP/67.

37.3 The Commission reviewed A38-WP/353, presented by Niger, that highlighted the establishment of the Association of African Aviation Training Organizations (AATO) in April 2013. The goal of AATO was to ensure high quality and standardized aviation training in Africa by promoting cooperation among its members and encouraging the sharing of expertise. There was broad support for WP/353 and the Commission congratulated the African States for this unique initiative that would benefit aviation safety professionals in the region. It was noted that the AFI Plan would continue supporting AATO, including through guidance on outlining a plan to address current training needs in Africa.

37.4 The Commission noted that A38-WP/213, presented by the Members of the African Civil Aviation Commission (AFCAC), had been presented under Agenda Item 27: Aviation Safety — Policy.

37.5 When reviewing A38-WP/214, presented by Ethiopia on behalf of AFCAC, on the AFI Cooperative Inspectorate Scheme (AFI-CIS), the Commission noted the progress, challenges, assistance provided and benefits of AFI-CIS which was intended to create a pool of safety inspectors in Africa. The Commission recognized the sharing of expertise provided by AFCAC through the management and implementation of the inspector scheme and endorsed ICAO's commitment to continue to support the AFI-CIS. While the Commission noted that inspectors had been mobilized to the AFI-CIS by certain States, all stakeholders were called on to support this scheme by providing resources for training of the CIS inspectors and for future missions conducted under the AFI-CIS.

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

**Resolution 37/1: Comprehensive Regional Implementation Plan for Aviation Safety in Africa**

*Whereas* ICAO continues to play its leadership role to reduce serious deficiencies in the Africa-Indian Ocean (AFI) Region which are detrimental to the functioning and further development of international civil aviation;

*Noting* that actions taken by ICAO under the Comprehensive Regional Implementation Plan for Aviation Safety in Africa (the AFI Plan) have begun to demonstrate positive progress in enhancing aviation safety in the continent;

*Noting* with satisfaction the significant progress made by African States in improving their level of safety oversight;

*Recognizing* that success in fully achieving the objectives of the AFI Plan mainly depends on the efforts made by the African States themselves;

*Recognizing* that many Contracting States in the AFI Region, despite the efforts they make, would, in the immediate future, require continued technical and/or financial support from ICAO and other stakeholders to comply with the requirements of the Chicago Convention and its Annexes;

*Recognizing* that many African States cannot, on their own, support an effective and sustainable national safety oversight system and therefore have to be urged and supported to establish regional safety oversight organizations (RSOOs);

*Recalling* Recommendation 4/5 of the Special Africa-Indian Ocean Regional Air Navigation Meeting (SP AFI/08 RAN) on the establishment of regional accident investigation agencies (RAIAs) alongside the development and establishment of RSOOs, thus enabling States to meet their international obligations in the area of accident investigation by collaborating and sharing resources;

*Noting* that ICAO is supporting many African States to establish RSOOs and RAIAs;

*Noting* the Abuja Declaration on Aviation Safety in Africa adopted during the Ministerial Conference on Aviation Safety held in Abuja in July 2012;

*Noting* the aviation safety targets adopted during the Ministerial Conference on Aviation Safety held in Abuja, Nigeria in July 2012 and endorsed by the Assembly of the African Union in January 2013;

*Noting* the ICAO Plans of Action developed for some Contracting States will serve as a platform to provide, in coordination with other stakeholders, direct assistance in resolving their significant safety concerns (SSCs) as well as other major safety deficiencies;

*Noting* that regional organizations initiated or established in the AFI Region will continue to require ICAO support for the near future and until they are solidly established and self-supporting;  
*Recognizing* the benefit of continuing to coordinate, under the ICAO umbrella, activities of all stakeholders providing assistance to States in the AFI Region;

*Recognizing* that ICAO will require additional resources to successfully carry out the support it provides to States in the AFI Region; and

*Noting* that strong regional offices would be a positive catalyst for the enhancement of aviation safety in the AFI Region;

*The Assembly:*

1. *Welcomes* the considerable effort made by African States and regional organizations to enhance aviation safety;
  2. *Urges* Contracting States of the AFI Region that accepted ICAO Plans of Action, to commit to achieving the objectives set forth in the Plans, through the resolution of major safety-related deficiencies, including the SSCs;
  3. *Urges* Contracting States of the AFI Region to commit to and accelerate the establishment of RSOOs and RAIAs, where required, and strengthen cooperation across the region in order to make the optimum use of available resources;
  4. *Urges* Contracting States of the AFI Region to refrain from duplication of services in joining more than one RSOO;
  5. *Urges* Contracting States of the AFI Region to implement the recommendations of the AFI Planning and Implementation Regional Group (APIRG) and the Regional Aviation Safety Group (RASG-AFI) meetings;
  6. *Urges* States, industry and donors to support the implementation of priority activities identified by APIRG and RASG-AFI;
  7. *Urges* States, industry and donors to make contributions in cash and kind towards the implementation of the AFI Plan and instructs the Council to recognize all such contributions;
  8. *Urges* African States, ICAO and AFCAC to jointly address identified safety deficiencies;
  9. *Instructs* the Council to monitor the achievement of the aviation safety targets established by the Ministerial Conference on Aviation Safety held in Abuja in July 2012;
  10. *Instructs* the Council to ensure the continued leadership role of ICAO in coordinating activities, initiatives and implementation strategies aimed specifically at implementing priority projects to achieve sustainable improvement of flight safety in the AFI Region and to allocate resources to the relevant regional offices accordingly;
  11. *Instructs* the Council to monitor and measure the status of implementation in the AFI Region throughout the triennium and to report to the next ordinary session of the Assembly on the progress made;
  12. *Urges* Contracting States of the AFI Region to support the establishment of the AFI Flight Procedure Programme (FPP) Office with seconded personnel and financial assistance as a matter of urgency to expedite the implementation of PBN in the region; and
  13. *Declares* that this resolution supersedes Resolution A37-7.
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**Agenda Item 38: Other issues to be considered by the Technical Commission**

38.1 The Commission considered A38-WP/38, presented by the Council, which provided a summary of work undertaken since the 37th Assembly in the area of non-chemical disinsection of the aircraft cabin and flight deck for international flights and noted that the use of non-chemical disinsection methods remained under development. The Commission agreed that any developments should be shared with ICAO and, where relevant, the World Health Organization (WHO). The Commission supported further work on non-chemical disinsection, but also noted that chemical disinsectants, when used in accordance with instructions and WHO guidance, were generally regarded as both safe and effective and would continue to be used. Nevertheless, concerns existed regarding the effect on passengers and crew health. The Commission was informed that the air curtain, which remained a potential alternative, was intended for use only at passenger entry doors and that netting was proposed for other doors. Promising research into the use of both the air curtain and netting was ongoing. The Commission also agreed that ICAO should request WHO to include the subject of non-chemical disinsection methods in its recently established Vector Control Advisory Group.

38.2 In reviewing A38-WP/225, presented by Indonesia which addressed capacity building activities for Aviation Human Resources Development in the aviation field conducted by the Air Transportation Human Resources Development Centre (ATHRDC) of the Ministry of Transportation in Indonesia, the Commission noted the progress made by Indonesia in this area. In relation to the prioritization of capacity-building activities on human resource development and the facilitation and coordination of these activities, the Commission noted that these responsibilities lay more with the regions and individual States.

38.3 Information papers were provided by Nepal (WP/139) and the Interstate Aviation Committee (WP/224).

38.4 The Commission considered working papers A38-WP/156, 256 and 257, presented by Venezuela (Bolivarian Republic of), proposing the development of an e-learning environment for ICAO online courses with the aim of improving safety as well as developing guidelines for safety management system (SMS) training programmes in the form of standardized training packages (STPs). Acknowledging the importance and advantages of the distance learning delivery methodology, the Commission noted Venezuela's progress in this field. The Commission also noted that ICAO was currently developing a blended, online classroom safety management course which would be launched during the second quarter of 2014.

38.5 The Commission also reviewed A38-WP/174, presented by Indonesia, proposing that ICAO introduce training courses for Members States on ICAO Annexes. The Secretary informed the Technical Commission that, while ICAO did not provide specific training on individual Annexes, computer-based training related to the Universal Safety Oversight Audit Programme was available and addressed all of the Critical Elements (CEs) in addition to offering some guidelines for the implementation of various Annexes.

38.6 The Commission discussed A38-WP/148, presented by Dominican Republic, proposing post-training evaluation, including on-the-job performance levels, to allow assessment of trainees in their operational environment. Also proposed was the establishment of a mechanism using the TRAINAIR



*PLUS* methodology to collect information on how participants apply the competencies acquired during training and how to measure the effective transfer of knowledge, skills and attitudes and their on-the-job application. The Commission recognized the importance of measuring training effectiveness and supported recommendations in A38-WP/148. It was agreed that the Secretariat would coordinate these recommendations with the TRAINAIR *PLUS* Steering Committee

38.7 An information paper was provided by COCESNA (A38-WP/221 and Corrigendum No. 1).

38.8 The Commission considered A38-WP/143, presented by India, that requested the Council to consider reviewing obstacle limitation surface (OLS) criteria contained in Annex 14 — *Aerodromes*, Volume I — *Aerodrome Design and Operations*, taking into consideration current aircraft navigational and performance capability. The Commission agreed that the Council should initiate work on this subject, involving the necessary technical disciplines and taking into account resource implications.

38.9 Also presented was A38-WP/153 which related to India's successful experience in near parallel runway operations and their work on a preliminary mathematical model developed for future use. The Commission requested the Council to consider developing amended guidelines to be included in the *Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways* (Doc 9643), with the understanding that there would have to be a proper consideration of risk.

38.10 The Commission considered A38-WP/298, presented by Republic of Korea, that requested ICAO to continue to work on Standards for runway end safety areas (RESA) through the examination of accident data and cost-benefit analysis. The Commission emphasized that the focus should be on, not only RESA, but on a comprehensive approach for addressing runway safety, as reflected in the current ICAO work programme, which included other means such as arresting systems and runway surface condition assessment and reporting. It was also noted that at certain airports around the world, it would be difficult to expand the RESA due to urban constraints. Noting that the subject of RESA was included in the ICAO work programme for the next triennium, the Commission recommended that the proposals by the Republic of Korea be taken into account as necessary.

38.11 A38-WP/302, also presented by the Republic of Korea, on measures for preventing runway excursions caused by unstable approaches, suggested that provisions on flight operational quality assurance (FOQA) and additional training measures for flight crews be included in the *Manual on the Approval of Flight Crew Training Organizations* (Doc 9841). The Commission noted the information presented and concluded that Annex 19, the *Safety Management Manual* (SMM) (Doc 9859) and the newly published *Flight Data Analysis Programme Manual* (Doc 10000) offered adequate provisions and guidance to address data-driven development of training programmes taking into account a formal hazard identification and risk mitigation process.

38.12 The Commission considered A38-WP/151, presented by Indonesia, which outlined the need for Member States to ensure they have well-trained air navigation services (ANS) personnel. The paper also contained a proposal for developing licensing requirements for aeronautical information systems (AIS) personnel, air traffic safety electronics personnel (ATSEP) and flight procedure designer personnel in Annex 1 — *Personnel Licensing*. The Commission recalled that ICAO had developed, in cooperation with International Federation of Air Traffic Safety Electronics Associations (IFATSEA), competency frameworks for ATSEPs as a means to foster high quality and globally uniform training. The

Commission did not come to consensus on whether a sufficient safety case was available to justify the development of international licensing provisions for personnel outside of the scope of the existing disciplines covered under Annex 1. The Commission noted that the absence of international licensing provisions would not preclude States or regions from establishing their own national certification or licensing requirements. The Commission agreed that, resources permitting, the ICAO Council be requested to identify the safety case for the development of international licensing provisions beyond the current scope of disciplines covered under Annex 1.

38.13 The Commission considered A38-WP/252, presented by United Arab Emirates, which highlighted the significant threat posed by laser emitters to civil aviation safety and security. The paper noted the growth of laser occurrences required a global response to mitigate the risk associated with the unregulated use of laser emitters. The Commission noted that a number of States were taking action to mitigate the risks posed by laser emitters, and that much more could be achieved, particularly in the area of taking appropriate legal action against offenders under applicable criminal law. Nevertheless, should additional matters need to be addressed by ICAO, the Commission agreed that the task should be referred to the Council for further consideration, subject to budgetary considerations. In this respect, the European Aviation Safety Agency (EASA) offered to provide resource assistance.

38.14 The Commission considered A38-WP/359, presented by Japan, that described the use of a crisis management system and emergency equipment for air traffic control in preparing for natural disasters such as the recent tsunami caused by the earthquake in Japan in 2011. The paper invited the Assembly to encourage States to share their best practices for crisis management; to note the importance and the necessity of proactive measures against events, including natural disasters; and to consider their emergency response framework and prepare their emergency equipment for ATC.

38.15 A38-WP/325, presented by Republic of Korea, focused on emergency or contingency plan provisions contained in several ICAO Annexes. The paper invited ICAO to consider developing comprehensive guidance material for the proper establishment of State emergency response planning (ERP) connecting all of the relevant Annexes, as distinct from separate emergency response provisions of service providers.

38.16 The Commission considered A38-WP/149, presented by Indonesia which provided information on improving State capability to manage evacuations and incoming relief in the aftermath of a disaster in hazard-prone areas. The paper highlighted the use of disaster-focused airports in the Get Airport Ready for Disaster (GARD) programme and requested that ICAO develop guidance material for operational procedures for airports in hazard-prone areas.

38.17 Regarding A38-WP/359, A38-WP/325 and A38-WP/149, and in view of the considerable support from States on the need to progress work on different aspects of emergency response, the Commission agreed that the Council should initiate work to further examine these issues, taking into account resource requirements.

38.18 The Commission considered A38-WP/132 and A38-WP/364, presented by Canada, which provided a concept of space-based ADS-B that leveraged two established technologies (satellites and ADS-B) to allow for global air traffic services (ATS) surveillance coverage. The concept had the potential to enhance safety and significantly contribute to more efficient airspace management, optimum altitude aircraft operations, preferred routings and reduced fuel burn in remote regions where ground-

based surveillance was not feasible or practical. The Commission noted that space-based ADS-B had been the subject of AN-Conf/12 Recommendation 1/9 and that the concept would be included in the GANP although, as noted, there was a mention of space-based ADS-B in the fourth edition of the GANP. The Commission agreed that consideration of the development of ICAO provisions and guidance material should be referred to the Council, noting that such work should be, to the extent possible, performance-based.

38.19 The Commission reviewed A38-WP/326, presented by the Republic of Korea, concerning civil/military cooperation. The paper invited ICAO to consider supporting conferences at which examples of civil/military cooperation could be introduced, discussed and shared amongst Member States. It was recalled that, as covered in AN-Conf/12 recommendations and the Consolidated statement of continuing ICAO policies and associated practices related to air navigation, ICAO had already taken action in the regions to encourage States to improve civil/military cooperation. The Commission agreed that the Council should consider further the need to develop guidance material on flexible use of airspace (FUA), airspace design and interoperability and to take into consideration the principles of Collaborative Decision Making (CDM) in the sharing of the information among civil and military partners and the use of air traffic flow management (ATFM) to increase efficiency in the utilization of the airspace. In their consideration, the Council would need to take into account budgetary implications.

38.20 Information papers were provided by Nepal (A38-WP/117), India (A38-WP/346 Revision 1), Republic of Korea (A38-WP/308) and Mongolia (A38-WP/324).

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